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Volume XVII NOVEMBER, 1934 Number 11

THE RUSSELL D. CARMAN LECTURESHIP*

EDWARD S. SCHONS, M.D.

President of the Minnesota Radiological Society

Saint Paul

IT IS my great privilege to announce that there has been established by the Minnesota Radiological Society a permanent lectureship in honor of Minnesota's most highly distinguished roentgenologist, the late Dr. Russell D. Carman.

No name among the pioneers in various branches of roentgenology stands out with greater renown than does that of Dr. Carman. He was famous throughout the medical world, and especially famous throughout the roentgenological world. His contributions, especially in the x-ray diagnosis of diseases of the gastrointestinal tract, coming as they did during the early years of the development of this field, were among those which built up this subject.

It is therefore very fitting that a permanent memorial should be erected to him.

The Minnesota Radiological Society has had on its program from time to time in the past, perhaps about once a year, a distinguished roentgenologist from outside the state, and it had been the general plan to continue this procedure.

One of our three annual meetings for the past several years, as well as those of other special societies, has been held at the time and place of the Minnesota State Medical Association's meeting. Our program has formed part of the state medical program. It was the brilliant conception of our genial and efficient secretary, Dr. Leo Rigler, that here was an opportunity for Minnesota's radiologists to create a suitable memorial to a distinguished pioneer and fellow worker and, at the same time, contribute an annual event, in the form of a lecture of outstanding merit on some radiological subject, to the program of the state meeting for the benefit not only of the radiologists but of all the members. The idea met with instant favor on the part of all concerned and was promptly approved and adopted, and it has been formally accepted by the Council of the State Medical Association.

The lecturer each year is to be chosen by the Minnesota Radiological Society and his expenses defrayed by that organization. This being the first lecture, it was thought proper that it should be inaugurated by an address on the life of Carman by one of his intimate associates who knew him best.

We are very fortunate and greatly honored in having a distinguished surgeon of the Mayo Clinic consent to perform this very pleasant task. I take great pleasure in introducing Dr. Donald Balfour.

*Introductory remarks preceding the presentation of the first address under the Russell D. Carman lectureship, by Dr. A. B. Moore, professor of roentgenology, Georgetown University, Washington, D. C.

The Life of Russell D. Carman

DONALD C. BALFOUR, M.D.
Rochester, Minnesota

Roentgenology having developed within the memory of the present generation, its true relationship to the control of chronic diseases which afflict the human race cannot easily be appraised; but it is a safe prediction that any present evaluation of this relationship, in retrospect, will be found to be an underestimation. Roentgenology not only has enabled the clinician to confirm his observations, but, more important, has given him information which is obtainable in no other way. It has made the impossible possible.

This diagnostic method is now more essential in the diagnosis of a greater number and wider variety of chronic diseases than is any other, and its application is steadily becoming more comprehensive. Since the whole structure of therapeusis rests on accuracy of diagnosis, the importance of this fact cannot be exaggerated. The future medical historian, in judging great benefactions to the health and happiness of mankind, must accord to roentgenology a place with anesthesia and antisepsis.

Many of the most serious diseases, notably carcinoma, frequently fail to give rise to any clinical signs or symptoms in their early stages, but roentgenology often makes recognition possible at a time when there is the most favorable opportunity for bringing about cure. The presence of early pulmonary tuberculosis, of symptomless carcinoma of the stomach, or of certain lesions of the skeletal system, in many instances can be determined only by roentgenologic examination, and if there were some means of applying it routinely, for example, in the course of periodic health examinations, countless deaths from these diseases could be prevented. The progress of roentgenology, therefore, will depend on its further development in detecting disease before clinical signs and symptoms are manifest, and a great impetus to this would be inexpensive, efficient, and practical roentgenologic methods that would result in early recognition of any deviations from normal, thereby contributing so much to longer and healthier life.

This tremendous capacity for good must not conceal the fact that it is on the interpretation of the revelations of the roentgenogram and fluoroscope that depends the sound development of the science. The more keen the roentgenologist, the more he will realize that the significance of his findings must be judged by an astute clinician; just as the clinician will also demand skilled roentgenologic interpretation of his findings.

The debt to those who have developed this phase of science cannot be measured, and the Minnesota Radiological Society has added to its prestige by the establishment of an annual lecture in honor of Russell D. Carman, who will always be identified with that group of investigators who recognized the possibilities of roentgenology and who, by their industry, vision, and imagination, have carried it to such great heights. Carman possessed the true character of the pioneer. He was a prodigious worker, enthusiastic yet cautious; he was courageous in the face of difficulties and disappointments, determined to know the truth, and willing to sacrifice everything which might interfere with this purpose. He made it a practice to observe at the operating table that which he had studied by fluoroscope and roentgenogram. I shall never forget the eagerness with which he viewed the field of operation to learn whether his opinion could or could not be confirmed. I never knew him, when he had made a positive statement in an obscure case, to try to persuade himself that a lesion was present when it could not be seen by others; in fact, it often appeared that he seemed gratified if his diagnosis was not substantiated, for he realized that with any method which held such great potentialities for accuracy, its true value would be more quickly determined through encountering mistakes in diagnosis.

Russell Daniel Carman was born at Iroquois, Ontario, March 18, 1875. After preliminary study in Minneapolis Academy, he took the first two years of the medical course in the University of Minnesota. Moving then to St. Louis, he continued his studies in the Marion-Sims College of Medicine, receiving the degree of M.D. in 1901. For a year he did graduate work at Johns Hopkins Medical School, and then returned to St. Louis to practice. It was his first intention to take up orthopedics, but having a natural aptitude for the electrical arts, he was soon attracted to medical roentgenology, which was then in its early stages of development. Advancing with the science, and working diligently

and enthusiastically, he shortly became known as an exceedingly proficient and unusually reliable roentgenologist. He was made professor of roentgenology in the medical school of St. Louis University, but resigned later to accept the same post in Washington University. On invitation, he joined the staff of The Mayo Clinic January 1, 1913, as head of the Section on Roentgenology, and continued in that capacity until his death in 1926.

Carman's great contributions were in the field of gastro-intestinal diagnosis, and they are recorded in his classic monograph. He was quick, however, to sense the limitations of roentgenology, and when the medical world became aware of the extraordinary accuracy of roentgenologic diagnosis of lesions of the gastro-intestinal tract, he was one of the first to point out that in certain cases it was possible to determine only that a lesion was present, and that any attempt to specify its pathologic character might mislead the clinician and be responsible for unsound advice being given the patient.

On the occasion of Carman's untimely death, his life-long friend and associate, Albert Miller, wrote: "The world of the x-ray lost a master workman. For a time it will grieve that he is dead. For a longer time it will rejoice that he lived."

I feel greatly honored that I should have the privilege of inaugurating the Carman Lectureship, and I wish to congratulate the Society on the creation of a lectureship which, in paying tribute to Russell D. Carman, will bring to all subsequent meetings of the Association the spirit of one who loved his profession and who exemplified its highest ideals.

Introduction of the Lecturer

B. R. KIRKLIN, M.D.

Rochester, Minnesota

I am indeed very happy for the opportunity of presenting my old friend and associate and chief, Dr. Moore. The excellence of his work in roentgenology makes him a most appropriate man to have the honor of introducing the first Carman Memorial Lectureship to this Association.

Dr. Moore is so well known throughout this state, as well as throughout the continent, that his history is probably familiar to most of you, but to the few who may not know I will say that Dr. Moore received his medical degree at the University of Virginia in 1907. He practiced medicine near his birthplace in that state until 1910, when he was called to the Mayo Clinic as a consultant in the Section on Roentgenology.

Dr. Moore was associated with Dr. Carman for thirteen years. Following Dr. Carman's death in 1926, he was made head of the same Section of Roentgenology. He held this position until 1930 when, on invitation, he accepted the chair of radiology at Georgetown University, Washington, D. C., and also the position of chief radiologist at the Emergency Hospital in that city.

Like Dr. Carman, Dr. Moore's chief interest in radiology has been in gastro-intestinal diagnosis, and in that field his ability is almost uncanny.

He has chosen for his subject today, "The Function of the Roentgenologist in the Diagnosis of Intra-Abdominal Conditions." Mr. Chairman, ladies and gentlemen, I present to you Dr. Alexander B. Moore.

THE FUNCTION OF THE ROENTGENOLOGIST IN THE DIAGNOSIS OF ABDOMINAL DISEASE*

ALEXANDER B. MOORE, M.D.

Professor of Roentgenology, Georgetown University

Washington, D. C.

IN accepting the invitation to deliver the first Carman Memorial Lecture, I am not unmindful either of the honor or the responsibility that it brings to me. I thoroughly appreciate this privilege, but especially am I grateful for the opportunity to acknowledge the obligation that we owe to the man whom we honor today. Both as an individual and as the spokesman for roentgenology I come to pay tribute to the memory of Russell Daniel Carman. I was Carman's first pupil; for many years I was his associate; for a time I occupied the position made vacant by his untimely death; even now I remain his student, striving to apply those principles which he laid down.

Russell Carman came to the Mayo Clinic in 1913 accompanied by Albert Miller. No happier combination of spirits could have been found, for learning without enthusiasm is seed cast on barren soil; knowledge without wisdom is perilous. He came armed with certain facts the true value of which he sought to know; his opportunity was great, for he found in his new surroundings a wealth of material with unlimited facilities for determining the accuracy of his work. Roentgenology owes much to Carman; Carman owed much to those great men who gave to him the opportunity for proving the worth of the signs that others had described. In no line of diagnostic endeavor is a general knowledge of surgery, pathology and clinical medicine so essential as in roentgenology. My preceptor was ideally equipped for his chosen career; for he was first a practitioner of general medicine, and, after a postgraduate course in one of the country's leading institutions, was associated with a prominent Western surgeon. He then began his work in roentgenology, not as a pioneer but rather as one who sought practical usage for a great physical agent. In Carman's work and in that of his disciples we find less of originality but more of practical application. His ability to separate the grain from the chaff, to utilize the important and to disregard the unimportant, was striking.

In this lecture it is my intent to emphasize the fundamental principles of our art, to trace briefly the great developments in modern roentgenology, to describe the methods now available, and to appraise their possibilities.

In stating that the roentgenologist should be considered as a consultant, I ask of you no undue regard, I claim for him no exalted position. Rather do I demand of him that he so equip himself that he fulfill that function. He must be schooled in experience, trained to observe and to correlate, and thoroughly imbued with that degree of humility so necessary for success in any line of endeavor. As one whose opinion may not be final but must be correlated with the findings of others, he must accurately appraise the data so obtained. There must be a sufficiency of confidence and above all not too much of skepticism in the work of his confreres. The assumption of error on the part of others is, to my mind, the deepest pitfall in diagnosis. The roentgenologist must search for the unusual but never disregard the obvious in so doing. He should draw his conclusions primarily from his own diagnostic criteria, yet in the final analysis he must utilize all available evidence. In the absence of conclusive data he must not disregard the suggestive. If this appraisal seems idealistic, it also emphasizes Carman's influence. Need I remind you that without certain ideals there would be no men; without certain men there would be no ideals.

Has science given to the roentgenologist of today the equipment necessary for him to occupy his place in abdominal diagnosis? Has roentgenology kept pace with other medical progress? Let us consider some of the changes that have come within the past two decades.

*The first Carman Memorial Lecture, instituted by the Minnesota Radiological Society. Delivered before the annual meeting of the Minnesota State Medical Association, Duluth, July 17, 1934.

In 1913, when I first knew Carman, equipment for the generation of x-rays was imperfect; the vacuum tubes were unstable and limited in capacity; the lack of high speed photographic emulsions and the imperfection of intensifying materials made speedy radiographic work an impossibility. There was much discussion as to the dangers of fluoroscopy, and its use was limited to a few workers. Rieder's opaque meal, first used for experimental study and later applied clinically, had given certain diagnostic facts. It was conceded that cancer of the stomach by its intrusion on the lumen gave a picture suggestive, at times typical. Gastric ulcer by the excavation of the necrotic area produced a niche visible to the roentgenologist; the spastic or cicatricial resultant of such an ulcer might produce an hourglass deformity.

Lewis Gregory Cole had made his great contribution in which he described deformity of the duodenal cap as characteristic of duodenal ulcer. This had been greeted with the skepticism so frequently the lot of a pioneer and lacked the support of surgical and clinical confirmation. Pyloric stenosis was demonstrable, its cause assumptive. Obstructive lesions of the large bowel were recognized; gross encroachments on the lumen were, at times, demonstrable; little or no attempt at the diagnosis of inflammatory lesions was made. The literature was filled with data on stasis and ptosis; constipation was as definite a roentgenologic as a clinical entity. Appendicitis was diagnosed by a chain of contradictory roentgenologic signs; the appendix filled with opaque material, it did not fill; it was segmented, it was not segmented; and, most important of all, either an intact abdominal wall or a carefully taken history proved that the organ had not previously been removed.

Through all this period we find little or no attempt at a determination of the cellular nature of a lesion, its extent or etiology. The diagnosis of gallbladder disease was limited to a few cases in which the shadows of stones could be demonstrated and to that debatable group in which a shadow suggesting a thick-walled gallbladder was visualized. Roentgenologic visualization of the liver and spleen were unheard of. Little or no attention was paid to the outline of the shadows cast by the psoas muscles; the contour and movements of the diaphragm were not regarded as being of any particular significance. The roentgenologic examination of the urinary tract consisted chiefly in the search for calculi and in the use of retrograde pyelography, the opportunity for the use of which was limited chiefly to those workers associated with large medical institutions. The limitations of roentgenology were definite and clearly circumscribed.

The great advances in roentgenology are due to several factors, chief of which are: improvements in mechanical equipment, the utilization of chemical compounds that permit the visualization of certain viscera, and the increased appreciation by roentgenologists of shadow values and their correct interpretation in terms of physiology and pathology. Modern generating equipment is now available, the output of which is practically unlimited; Coolidge, by his invention of the vacuum tube which bears his name, has made the utilization of these high voltage currents possible. The improvement in the radio-sensitive photographic emulsions and the use of the Potter-Bucky diaphragm have made it possible to obtain radiographs of a quality undreamed in the past. Graham, Cole and their collaborators have, by their epoch-making work, made the visualization of the gallbladder a simple procedure. By the introduction of thorium salts into the blood stream the liver and the spleen become opaque to the x-rays and reveal their structures to the eye of the roentgenologist. Intravenous urography has made the roentgenologic study of the urinary tract simple and practical, since by the introduction into the blood stream of certain iodine-bearing salts that are eliminated by the kidneys, accurate visualization of these organs is obtained. Trained roentgenologists have availed themselves of the opportunities afforded by these great contributions; they have carefully applied them in their clinical work and have accurately appraised their diagnostic values.

Equipped as he now is, the roentgenologist approaches the problems of abdominal diagnosis with no little confidence; he utilizes whatever measures are necessary to arrive at his goal. As the initial step in his examination he will obtain stereoscopic roentgenograms of the abdomen and study them with care; he will search for urinary calculi, so often the simulant of digestive disease; he will note the size and position of the renal shadows. If indicated, he will resort to intravenous urography in order to obtain definite knowledge of the condition of the kidneys. The

course of the psoas muscles will be carefully traced, since distortion or obliteration of their outline is highly indicative of post-peritoneal tumors or accumulations of fluid. He will search for localized accumulations of gas in the intestinal tract, for their presence may point to an obstructive lesion. The contour and excursion of the diaphragm are closely studied and search made for the protrusion of an abdominal viscus into the thoracic cavity. In examining the gastro-intestinal tract he will satisfactorily distend and carefully approximate the visceral walls; distortions and displacements will be noted, and by fluoroscopic palpation a strict search will be made for extra-luminal lesions. In fine, his examination will constitute an abdominal exploration.

Let us now consider the value of the data obtained by such a roentgenologic examination. Instead of the former stereotyped diagnosis of gastric cancer, the roentgenologist of today is able to demonstrate with considerable accuracy the extent of the process and to speak with authority as to the possibility of radical removal of the lesion. Without hesitation he distinguishes between malignant and benign polypoid growths; he recognizes gastric lues and, with almost microscopic accuracy, differentiates it from the infiltrative, linitis plastica type of malignancy. Certain ulcerating lesions, long regarded as primarily inflammatory, are now definitely classified roentgenologically as degenerating carcinomata. This diagnosis is based on Carman's "meniscus sign" which he described in 1921, and, to my mind, represented his greatest contribution to our art. By its proper application and recognition many patients are spared those dietetic deprivations so necessary to the healing of peptic ulcer and come at once to surgery, their one hope of permanent cure. In the consideration of gastric malignancy the experienced roentgenologist has learned to be guarded as to prognosis and in prophecy as to life expectancy; his statistics prove to him that certain patients, although untreated, may live for months, even years. He realizes that this inexplicable delay in the inevitable does not militate against the accuracy of his diagnosis.

In the search for gastric ulcer the roentgenologist now gives heed to slight departures from the normal that in the past were disregarded. He knows that slight spastic deformities, especially those involving the pyloric antrum, may be the most valuable indices of a lesion located elsewhere in the stomach. Also he realizes that certain extra-gastric lesions may reflexly cause such spastic encroachments; he is aware of the disturbances due to emotional factors. In evaluating indirect signs all factors capable of producing them are considered. By proper palpation the roentgenologist is able to visualize the crater of an ulcer so small that its discovery by the exploring hand of the surgeon may be difficult. In the diagnosis of peptic ulcer, as in other branches of medical art, the fallacy of attempting to account for the degree of complaint by the extent of the disease is apparent. Frequently symptoms of long duration are due to a lesion so minute as to almost escape detection.

The recognition of duodenal ulcer has become a most precise procedure; no longer does the roentgenologist depend on gross peripheral deformities of the bulb or upon conclusions based on gastric retention and peristaltic abnormalities. Slight spastic encroachments in contour are discovered and properly differentiated from anatomic anomalies. Small mural craters are delineated, and that definite entity, duodenitis, is recognized. Kirklin's work in establishing the roentgenologic diagnosis of duodenitis represents one of the greatest of the recent contributions to abdominal diagnosis.

In no branch have greater strides been made than in the examination of the large bowel. The use of air distention in conjunction with the opaque enema has greatly facilitated this procedure. Now, in experienced hands, small, non-obstructive growths are discovered and their nature determined with precision. Distinction between the benign and the malignant is extremely accurate. Diverticula are easily demonstrated and infection in them, by its spastic manifestations, gives rise to a typical picture.

Changes due to inflammatory disease in the intestinal wall produce roentgenologic signs that are accurately diagnostic both as to etiology and to extent. The diagnosis of chronic ulcerative colitis, amebic and tuberculous infections has been made astoundingly correct. It affords me no little satisfaction to note that the once popular diagnosis of spastic colitis is passing rapidly to well-merited oblivion.

The examination of the vermiform appendix has become a valuable adjunct to our art. In approximately 80 per cent its lumen can be filled with opaque material; its position can be estab-

lished and disease demonstrated with considerable accuracy. Local tenderness, fixation and cecal spasm are important factors in the diagnosis of appendicitis; the absence of these signs is likewise important in preserving the integrity of the abdominal wall and preventing the surgical, or rather let us say the operatic, treatment of the ever-popular condition, chronic appendicitis.

In the early days of our work there was no more perplexing problem than the examination of a patient previously subjected to some surgical procedure involving a change in the anatomic relations of the abdominal viscera. However, the modern roentgenologist has so familiarized himself with surgical procedures that he now is able to interpret the aftermath of such changes and detect disease conditions and abnormal states which may occur. It was by a correlation of the surgical and roentgenologic findings that Balfour and Carman gave us the data on which the diagnosis of gastrojejunal, or stomal, ulcer is made by the roentgenologist. This was a great achievement and has been far-reaching in its results. Errors in surgical work may later be revealed by the roentgenologic examination. At times the roentgenologist may demonstrate with incontrovertible proof that some enthusiastic wielder of the scalpel has mistaken the terminal ileum for its distant relative, the jejunum, and established an anastomosis between it and the stomach. This further substantiates the observation of a great surgeon, a member of this Society, that the greatest danger in gastroenterostomy lay in the ease with which it is performed.

An appraisal of the value of roentgenology in abdominal diagnosis would be incomplete without due consideration of cholecystography. Since the original work of Graham great advances have been made; many of them have come from the work-shop in which Carman formerly labored. The technic of its application is now simple; its diagnostic findings are extremely accurate. In experienced hands cholecystography ranks high in the diagnosis of gallbladder disease; by its use the varying degrees of cholecystitis are recognized, encroachment on the visceral lumen by small papillomatous growths is demonstrated and non-radiopaque gallstones are readily discovered. Dependent as it is upon the elimination of iodine into the bile, the roentgenologist considers all factors capable of disturbing this process; he appraises his shadow densities in terms both of physiology and pathology. He is conscious of the import of systemic as well as local disease.

While its use has been relatively limited and wide experience in its diagnostic value is lacking, hepatosplenography offers great possibilities. As previously indicated, following the intravenous injection of a solution of thorium dioxide, the liver and the spleen are made visible in the roentgenograms. The size and contour of these organs are accurately delineated; malignant processes, both primary and secondary, and areas of necrosis may be detected. Especially striking has been the demonstration of the presence of metastatic carcinoma in the liver. With increased knowledge concerning its value and experience in its application it seems probable that this diagnostic agent will be more and more frequently utilized and its employment may give data obtainable by no other means.

This general summary of its present potentialities indicates incontrovertibly that roentgenology has accomplished much; its developments have contributed greatly in making the abdominal wall transparent to the diagnostic eye. Upon the individual rests the responsibility for a proper application of his armamentarium. If by careful observation and conservatism he practices his art, if he strives unceasingly and unselfishly to contribute his best to the alleviation of human suffering, he will, like that great roentgenologist whose memory is honored today, become a true consultant. Russell Carman, *Ave atque Salve!*

CARDIAC IRREGULARITIES*

P. T. BOHAN, M.D.
Kansas City, Missouri

FOLLOWING the epochal papers of Mackenzie upon the classification of arrhythmias, and the introduction of the electrocardiograph, the importance of rhythmic disturbance was so much overemphasized that other types of heart failure were ignored. Such was the viewpoint upon heart disease until a little more than a decade ago. It was not until about ten years after Herrick's classical paper upon the clinical manifestations of coronary occlusion that the importance of coronary sclerosis began to be realized. Since then most of the literature upon heart disease has dealt with this subject.

Medical historians of the future will doubtless record the four outstanding events in cardiology as: Withering's introduction of digitalis, Mackenzie's clinical studies of the disturbances in cardiac rhythm, Lewis' elaboration of electrocardiography, and Herrick's description of coronary occlusion. Withering pointed out how the function of the myocardium may be modified by digitalis. Mackenzie showed that rhythmic disturbances are manifestations of abnormal myocardial function. The work of both these investigators reminds us that in understanding the action of disturbed myocardial function, except in the anginal syndrome, some knowledge of the physiological properties of the heart muscle is essential. These properties, emphasized more or less by all physiologists, are irritability, conductivity, tonicity, rhythmicity, and contractility.

The object of this paper is merely an attempt to indicate to the general practitioner how the clinical importance of most of the heart irregularities may be recognized without graphic aid. Only those types of rhythmic disturbance due to hyperirritability of the heart will be considered. This does not include the arrhythmias in heart block the result of depression of conductivity, or pulsus alternans, a sign of exhaustion of the property of contractility. The sinus arrhythmias, about the only type of heart irregularity found in childhood, will not be included since this type of arrhythmia is the result of irregular impulses formed in the sinus node and cannot be interpreted as evidence of, or the cause of, disturbed function of the heart muscle. The most common types of cardiac irregularity are extrasystoles, paroxysmal tachycardia, auricular flutter, and auricular fibrillation.

Extrasystoles

Extrasystolic arrhythmia, the usual cause of an intermittent pulse, is the most common type of irregularity found after childhood. It usually can be readily identified without graphic aid by the relatively slow pulse and an occasional or frequent premature beat followed by a long compensatory pause. Extrasystoles are most likely to occur during relaxation following exercise or at night immediately after retiring. This type of irregularity tends to disappear upon exercise, due to the increased heart rate. When occurring with a rate above 100, the diagnosis of an innocent extrasystole should be made with caution. Although occurring frequently, many patients are unaware of their existence; in others, the complaints vary from palpitation, fluttering, thumping or flopping in the region of the heart, to precordial distress that interferes with sleep. The viewpoint of certain writers that an extrasystole after every normal beat is of less diagnostic importance than when occurring infrequently, is an observation I have been unable to verify. Whether the ectopic beats in extrasystoles originate in the ventricle, auricle, or junctional tissue, can be determined only with an electrocardiogram, but this is only occasionally a matter of importance.

Viewed as an early sign of heightened irritability of the heart muscle, many causal factors, both extracardiac and cardiac, should be considered. A careful history will often yield more information than a cardiac examination. An apparently innocent extrasystole may be the clue to the unraveling of a difficult diagnostic problem, whether the result of some toxic agent,

*Read before the annual meeting of the Minnesota State Medical Association, Duluth, July 18, 1934.

disease of some other organ, a chronic infection or an incipient cardio-vascular disease.

The disappearance of extrasystoles following the removal of chronic infection is a common observation, and their occurrence during acute infections may be the first signal of cardiac damage. An occasional extrasystole during pneumonia may be nature's method of warning the physician that the heart is suffering from the toxins of the disease and the increased irritability should not be accentuated by the use of digitalis.

A commonly overlooked cause of extrasystoles is a slight increase in the secretion of the thyroid gland. Clinical observation and experimental investigations show that in goiter the thyroxin becomes fixed in the cells, thus increasing the metabolism of the heart muscle, and the first clinical evidence of this is not infrequently an extrasystole. The relative infrequence of extrasystoles found in severe hyperthyroid patients in hospitals and clinics can best be explained by the tachycardia which is associated with the high grade hyperthyroidism. In many instances I have observed extrasystoles due to disease of the thyroid gland, long before there was any demonstrable increase in metabolism or other clinical sign of the hyperthyroid state. Moreover, I have occasionally seen extrasystoles develop without tachycardia, following the administration of small doses of desiccated thyroid. As an illustration: two sisters, aged fourteen and sixteen, respectively, with apparently normal hearts, were given 2 grains of desiccated thyroid daily for obesity. At the end of two weeks each had frequent extrasystoles, and in one they occurred after every normal beat. The heart rate in one was 74, and in the other 68.

In valvular lesions and in hypertensive hearts, extrasystoles are not uncommon, which suggests physiological dilatation of the heart as a cause of the hyperirritable muscle.

An example of extrasystoles as an early sign of coronary sclerosis is the following case:

In 1923, a physician, aged forty-two, consulted us because of skips in his pulse, which he had noticed for less than a year. A complete examination, including an electrocardiogram and frequent examinations thereafter, failed to reveal any abnormality except the extrasystolic arrhythmia. Three months before his death at the age of forty-nine, auricular fibrillation developed and a few weeks later there were signs of right heart failure with congestion. After the onset of fibrillation, digitalis was given, but it was not possible to reduce his heart rate below 100, without the development of a coupled rhythm. These extrasystoles were so distressing that he finally asked to have the drug discontinued. At autopsy both coronary arteries were almost occluded with calcareous deposits and there was extensive fibrosis throughout both ventricles, thus affording a plausible explanation for the patient's intolerance of digitalis.

The above cases represent unusual, if not rare, causes of this common rhythmic disorder and illustrate the variety of etiological possibilities.

The clinical importance of extrasystoles is dependent upon many factors. Even when occurring frequently, they can never be interpreted as a sign of myocardial insufficiency, but merely as evidence of an irritable muscle. This is true whether the causes are extracardiac or cardiac. When due to neurosis, insomnia, alcohol, tobacco, or caffein, they are a signal to change the patient's habits of living. They are sometimes a warning of a diseased thyroid gland or a chronic infection, and developing during digitalis administration, are a reliable cardiac sign of toxic doses. When associated with organic heart disease, extrasystoles may be interpreted as early evidence of heart strain, but nothing more. After forty-five, particularly if frequently repeated or occurring in series, the possibility of coronary sclerosis should be considered.

When symptomless, a drug merely to correct the irregularity is not indicated. If extrasystoles are annoying, and the cause cannot be removed, certain drugs are not only comforting but tend to lessen the development of other rhythmic disturbances. Quinidin sulphate, in 3 grain doses, two or three times a day, is usually effective. The use of potassium salts based upon pharmacological evidence of lessening cardiac irritability has been somewhat disappointing in my experience. The administration of digitalis to abolish extrasystoles is a common therapeutic error.

Paroxysmal Tachycardia

This is a disorder of rhythm in which paroxysms of rapid, regular heart action occur. Although the heart contracts regularly, it is a definite rhythmic disturbance because the impulses are not formed at the sinus node but at some other point in the wall of the auricle or ventricle. During the paroxysm, this new focus of impulse

formation, which is not under the influence of the nervous system, completely dominates the heart action—the normal pacemaker remaining in abeyance. These pathological impulses are probably nothing more than a series of extrasystoles.

The attacks come on suddenly and may last for periods of a few seconds or minutes, to hours or days. During the paroxysm, if the rate is quite fast, there is a fluttering sensation in the precordium, the blood pressure falls, and the disturbed arterial circulation usually produces dizziness, or a feeling of faintness. The diagnostic features are: abruptness of onset and termination of attacks, perfect regularity of contractions, and a rate, usually between 120 and 180, which is not affected by change of position or by emotion. Whether the attack is of the auricular or ventricular type cannot be determined without an electrocardiogram, but 90 to 95 per cent are of the auricular type, and in ventricular tachycardia the rate is slightly irregular.

Paroxysmal tachycardia begins and ends as a rhythmic disturbance without involvement of any of the other fundamental properties, and is a striking example of the circulatory effects of abnormal physiology of the heart muscle. It is not associated with any definite or demonstrable pathological changes, although attacks of the auricular type are not uncommon in mitral stenosis, and, moreover, ventricular tachycardia is an occasional complication of myocardial infarction. Either type may be caused by acute or chronic infection. The etiological factors are the same as in extrasystoles.

The prognosis in paroxysmal tachycardia of the auricular type is usually good. To use a Hibernianism, the patient recovers if the attack lets up. Death during an attack is rare, although I have seen one and a number are reported. In a majority of the cases, the attack lasts only a few minutes, and may not seriously interfere with the patient's activities. In prolonged attacks in older individuals there may be alternation of the pulse or no pulse, due to impaired efficiency of the myocardium. Moreover, the onset of the abnormal rhythm in patients of the coronary age may be accompanied by angina pectoris.

An illustrative case is that of a woman of 54, seen recently. The attack had begun seven days before with a fluttering in her chest, followed in a few minutes by such severe precordial pain that ½ grain of morphine had been given. Because of the severity of this pain a diagnosis of coronary occlusion had been made. Upon examination she was found to be slightly pale, restless, sweating, coughing, and there were numerous râles over the lung bases. The pulse could not be counted, although the apex rate was 178, as it had been on every count during the week. Shortly after the fourth 9-grain dose of quinidin, given at two hour intervals, there was a restoration of the normal sinus rhythm.

Ventricular tachycardia is one of the most serious rhythmic disturbances because of the possibility of its merging into ventricular fibrillation and sudden death. Three years ago, at the University of Kansas, a sophomore medical student, while taking his final examination in pathology, developed an attack of palpitation of the heart, accompanied by dizziness, nausea, and weakness. An electrocardiogram showed a ventricular tachycardia with a rate of 198. The attack subsided spontaneously in thirty minutes. A complete examination revealed no abnormality, except two badly abscessed teeth. He was advised to have these teeth extracted but failed to do so. One month later he suffered a second attack, while in bed, lasting forty minutes. A few hours after this, while sitting on a stool in the laboratory, he fell over dead. Microscopic examination of his heart showed a slight but definite acute myocarditis of the left ventricle. This case was reported in the *American Heart Journal* by Major and Wahl.

Various procedures may be tried for the relief of an attack, such as elevation of the arms above the head, pressure upon carotids or eyeballs, an ice bag over the precordium, and induction of vomiting. All these measures are worth while. Theoretically, digitalis or strophanthin, which in toxic doses may produce tachycardia, are contraindicated. To prevent recurrence of attack, the only drug of value is quinidin, given in doses of 3 grains, two or three times a day.

In ventricular tachycardia quinidin may be life saving. To prevent this serious complication in myocardial infarction, it is our practice to give quinidin early and continue it for 6 to 8 weeks, stopping if diarrhea or tinnitus appear. During a paroxysm of ventricular tachycardia, large doses are indicated, as much as 60 to 80 grains in twenty-four hours.

Auricular Flutter

This is not only the most rare but the least important type of arrhythmia. In flutter the auricles contract regularly and at a rate of 180 to 320 times per minute. The ventricular rate is usually about ½, sometimes only ¼, the auricular rate. Auricular flutter cannot be recognized without the electrocardiograph, as there are no reliable clinical signs of auricular contraction. It may be suspected in an elderly individual having a persistently fast pulse, say between 100 and 180, and the diagnosis is quite probable if a pulse rate of seventy-five or eighty suddenly doubles following exercise. Regardless of the rate of the auricles, myocardial efficiency is not affected unless the ventricular rate is increased. The treatment is digitalis.

Auricular Fibrillation

This is the most interesting and in many respects the most important type of disordered rhythm of the heart. Clinical studies indicate that it is closely related to the arrhythmias just described, and that it is the terminal stage of an hyperirritable auricle. Whether this disorder of rhythm is due to circus movement, as described by Lewis, or to multiple foci of impulse formation in the auricular wall, as contended by the Germans, is interesting but of little practical importance in diagnosis, prognosis, or treatment. However, it is of the greatest importance to understand that the impulses are not formed at the sinus, that a fibrillating auricle remains in diastole, and that impulses pass in a haphazard manner over the junctional tissue to the ventricles, thus producing irregular and usually an increased rate of ventricular contraction. Fibrillation is a functional disturbance due to a combined derangement of the properties of irritability, rhythmicity, and conductivity of the auricular wall. This is not a condition of pathology but one of abnormal physiology, and its etiology, character and significance can be determined only from clinical studies.

In many cases the cause of auricular fibrillation cannot be determined. The two pathological conditions of the heart that may be considered etiological factors are mitral stenosis and coronary sclerosis. It is rarely found in syphilitic heart disease. Other causes are thyrotoxicosis, acute and chronic infections, major operations, adrenalin chloride, alcohol occasionally and tobacco rarely. The etiological importance of overexertion, severe emotional disturbances and trauma are not sufficiently appreciated.

The two most important diagnostic features are rapidity and irregularity of the ventricular contractions. The apex rate as determined with the stethoscope may be ten to thirty beats more than the pulse at the wrist, thus showing a pulse deficit. Increased rate, 110 to 160, is the rule, although slow rates, eighty to ninety, may be found in elderly individuals or in the presence of disease of the bundle of His. An irregular pulse with an apical rate above 115 almost always means a fibrillating heart. Extrasystolic arrhythmia may be confused with slow fibrillation but extrasystoles seldom occur with a heart rate above 100 and careful auscultation will usually disclose a dominant rhythm. The most common early symptoms present in most cases are fluttering in the precordial region and breathlessness upon exertion.

When the heart beats irregularly, whether fast or slow, there is greater expenditure of energy, for obvious reasons, than with a corresponding rate and a normal rhythm. The serious circulatory phenomena that may arise in some cases from this disorder of rhythm alone, justifies considering auricular fibrillation a definite form of myocardial insufficiency. An illustrative case is the following:

Antoinette, a Polish girl of seventeen, was admitted to the hospital of the University of Kansas, in March, 1932. She had been breathless upon exertion and had noticed palpitation for three or four months. She had been in bed for two weeks and had been vomiting persistently for three days. The signs of mitral stenosis were present with an apical rate of about 178 and a totally irregular rhythm. There was neither edema of the feet nor enlargement of the liver, and no apparent evidence of any disturbance in myocardial function, except the abnormal rhythm. Yet the pulse could scarcely be felt, the extremities were cold, and there was a mild delirium, probably due to cerebral anemia.

At one p. m. she was given 1/125 grain of oubain intravenously. Seven hours later the dose was repeated —there having been no reduction in the heart rate. At midnight the pulse was 104 and the following morning her apex rate was ninety-two and she asked for breakfast. She has since married and is fairly active but takes her digitalis regularly.

This is rather an extreme case but it clearly illustrates that in certain cases of auricular fibrillation peripheral ischemia may be more important that venous congestion.

Prognosis.—The prognosis depends partly upon the cause and to a considerable extent upon the complications. Auricular fibrillation should always be considered a serious disorder—never a trivial one. Although I have had one patient under observation for twenty years, sudden death is not uncommon. Indeed, I have seen more than a few, and the dangers of embolic phenomena are always present regardless of the heart rate. The two most common complications are embolism and exhaustion of the cardiac reserve from overwork. Untreated, the increased rate and abnormal rhythm produce fatigue of the ventricle, loss of tone, the heart cannot adequately discharge its contents and the result is failure with congestion. This sequence of events in auricular fibrillation is quite obvious and relatively common. It would not be mentioned here if it were not for the fact there is an apparent fad with certain writers and teachers to minimize and even ignore all forms of cardiac arrhythmia. One author in a comparatively recent article refers to the period of the study of rhythmic disturbances as "the dark age of cardiology," and speaks of auricular fibrillation as a myth. I am unwilling to concede as a myth any condition that will produce sudden death, or slow death from a clot on the brain—not to mention gangrene of a leg, or even a lingering death from cardiac dropsy and orthopnea.

One reason for such divergent views on the clinical importance of fibrillation is the nomenclature in cardiology. Many writers, by inference at least, leave the impression that the only form of myocardial failure of importance is congestive failure. At least for the general physician and for the student it is confusing to classify all forms of myocardial failure as simply anginal or congestive. Congestion is never an early symptom of a failing heart: it is usually the last one. Eighty-five per cent of the myocardial reserve is exhausted before congestion appears. The term "precongestive stage" applied to early symptoms may also be confusing because a patient may die from peripheral ischemia due to disturbed arterial circulation, without ever having developed dropsy or other sign of congestion. A good example is heart block. Another example is the occasional death from uncomplicated auricular fibrillation. In ventricular tachycardia or fibrillation venous congestion is certainly not one of the important clinical signs.

I am firmly convinced that rhythmic contraction is one of the important functions of heart muscle. I believe that abnormalities of rhythm should be considered as well as alterations of the other physiological properties in the study of an insufficient myocardium.

For the physician who has to diagnose his heart cases from the clinical history and physical examination it will be helpful to keep in mind that Mackenzie defined heart failure as "an inability of the myocardium to maintain an efficient circulation when an individual engages in his usual activities." Based upon this definition all forms of heart muscle failure may be classified according to the disturbance in function of one or more of its fundamental properties as outlined earlier. This is a simple method of classification of heart failure for the general practitioner, and is sufficiently accurate for all clinical purposes. Most certainly if all the properties of the heart muscle are functioning normally, heart failure cannot exist. Occasionally insufficiency of the myocardium may be marked from impairment of a single property but frequently the derangement of one property sooner or later affects the others.

When fibrillation and right heart failure with congestion coexist, a careful history will usually show that the fibrillation appeared first. This is practically always true in goiter and usually so in other conditions. The object of treatment is not merely to improve the tone with digitalis but to lessen the strain on the muscle by controlling the rapid, irregular contractions of the ventricles. Even though the dropsy and other symptoms disappear, the digitalis should be kept up. A recurrence of the symptoms of congestion may be postponed for months or years by such management. The duration of life in a patient with auricular fibrillation, therefore, will depend almost as much upon judicious medication and an intelligent conception on the part of the medical adviser of the factors concerned in heart failure, as upon the associated pathological changes.

Treatment of Auricular Fibrillation

In paroxysmal fibrillation treatment may not be indicated. If the attacks are prolonged or recur frequently, the same treatment is given as for paroxysmal tachycardia. In established fibrillation, the only drugs of value are digitalis, strophanthin, or quinidin. Despite opinions to the contrary there appears to be both pharma-

cological and clinical evidence that the action of digitalis in fibrillation represents the very essence of cardiac therapy.

As stated previously, digitalis modifies myocardial function only by its action on the physiological properties of the heart muscle. This action is by no means the same in a heart with normal rhythm as upon one exhibiting auricular fibrillation. In the latter, conductivity is usually the first property affected—probably because of fatigue of the auriculo-ventricular bundle. The heart block thus produced allows fewer beats to pass from auricles to ventricles and the diastolic period of the ventricle is increased from perhaps 1/6 to ¾ of a second. It is only in fibrillation that a reduction in rate may be confidently expected, and it is only in cases with this disorder of rhythm that a reduction in the rate may be used as a gauge to dosage. With very few exceptions, digitalis is indicated in established fibrillation regardless of the heart rate. The need is urgent if the rate is fast, and may be given to advantage even in a slow fibrillation to prevent increased rate following exercise.

The only possible exceptions to the rule—digitalis for fibrillation—are thyrotoxic hearts and in severe infections, such as pneumonia. When fibrillation is due to thyrotoxicosis I use digitalis but there are very good reasons why its administration may be legitimately questioned. A goiter heart is an irritable heart, and digitalis by further increasing this irritability may do harm. However, in therapeutic doses, the lowered rate resulting from depressed conductivity apparently offsets the possible harmful effects.

Digitalis and strophanthin are contraindicated in pneumonia except to reduce the rapid rate of fibrillation. Reliable statistics indicate that digitalis, especially in large doses, instead of supporting a heart with normal rhythm in pneumonia, actually increases the mortality 20 per cent. Moreover, a knowledge of the action of digitalis upon the fundamental properties of heart muscle shows why this alleged support has no pharmacological basis. The heart muscle in pneumonia is seriously affected by the toxins of the disease and to accentuate the effects of these irritants with digitalis is dangerous therapy. We give digitalis or, preferably, strophanthin for fibrillation occurring during pneumonia but only about two-thirds the therapeutic dose. It should always be given cautiously and never in large doses. Neither digitalis nor strophanthin should be given to prevent fibrillation, as they may produce it.

Quinidin sulphate may be used to restore a sinus rhythm in certain cases of chronic fibrillation. Its action in fibrillation is probably the same as in extrasystoles, paroxysmal tachycardia, and auricular flutter. It has no effect on tone, and, indeed, is contraindicated in the presence of decompensation. The ideal indication for quinidin is in persistent fibrillation following thyroidectomy. We have used it with apparent success before thyroidectomy to prevent postoperative fibrillation. When fibrillation is due to such pathological conditions as mitral stenosis or coronary sclerosis, normal rhythm may be restored in about one-half the cases by the use of quinidin. The average safe dose is 4 grains every six hours. Although there are certain dangers in its use these are probably less than the existing hazard of embolic phenomena in chronic fibrillation.

Summary

A perfectly normal heart contracts rhythmically. All the irregularities discussed are closely allied and due to increased irritability of the heart muscle. The significance of any irregularity depends upon the type, its effects upon the efficiency of the heart muscle, the etiological factors and the age of the patient. Extrasystoles are of the least importance. Auricular fibrillation should be considered evidence of a serious disturbance of myocardial function that sooner or later results in a circulatory insufficiency. Digitalization should be maintained in all cases of fibrillation with a rapid rate to prevent fatigue of the ventricles. Quinidin by lessening irritability is the drug of choice to prevent or abolish rhythmic disturbance.

OUR CONSTITUTION*

HONORABLE JOHN P. DEVANEY
Chief Justice, State of Minnesota
Minneapolis

I COME to you tonight as a representative of one great profession speaking to the members of another great profession. Yours is a great and progressive group, perhaps the most intelligent group of citizens that could be gathered within the boundaries of our State. What I am going to say, therefore, concerns you very deeply. I believe that it is a proper criticism of the members of your profession to say that too often they are so deeply engrossed with their own affairs and with the details of their professional work that they do not take an active and, therefore, do not take an intelligent, interest in the affairs of their State and of their Nation.

I will, therefore, speak very briefly to you on a subject, which, while rather trite and perhaps often dull, is one that should be of the greatest interest to you all. That is the Constitution of your country!

We are living in troubled times. The world is at present disturbed and efforts are being made everywhere by all civilized nations to right these conditions and to correct the inequalities which today exist. This condition is not peculiar to your country. It is a condition with which the world is faced. Today we find our country passing through a period of transition and change—how great we do not know because our course is not charted and we do not know where we will finally end, and what the final development will be. We are in the hands of leaders who are bold, who are willing to experiment, who are willing to act boldly, and for that reason it is difficult to say just what changes will be effected in this country before we are through with what we are pleased to call this "NEW DEAL."

We live in the greatest nation on earth today—I think we can safely say that without fear of boasting—in point of population, in point of area, in point of favored location, in point of self-sufficiency, in point of wealth—perhaps the greatest civilized nation in the world's history, the only civilized nation in its history that has ever solved its problem of production. Just consider that fact! Since man began to walk erect, since he began to gather in tribes throughout the development which has taken place over the hundreds of centuries, man has continually struggled with the problem of production, the problem of subsistence, everywhere throughout the world. This struggle for enough on which to live, for the necessities of life, for food, for clothing and for shelter, has gone forward and this is the first great nation in the history of the world that has solved this great and transcendent problem of civilization.

I heard a great scientist say, within the past few days, that this nation is now almost self sufficient. We can produce everything we need in abundance. We can produce thrice what we need for our more than one hundred thirty million people except for only five essentials. We can go forward to the development of whatever civilization and whatever plan we consider suited for our ultimate life's well-being. These five things are chromium, nickel, coffee, and two drug groups.

England, if blockaded for three weeks, would starve. Germany, Italy, France, all striving to solve this problem which we have conquered! Russia will never solve her problem of production. Russia lies two-thirds north of a latitude comparable to the latitude of Montreal. It suffers from famine year after year. It suffered from crop failures in 1930, 1931 and 1932. They were reduced to starvation rations in Russia by these three great crop failures. Russia will never be freed from the spectre of famine. It will never solve this great problem of production for its ever increasing millions.

Ours is a happier prospect and in this splendid Nation where we have solved our problem of production we can look forward hopefully to the solution of our other great problems. We can here build the finest civilization that the world has ever known, because we have a people who have a real conception and understanding of liberty. There are not many people in the world

*Address before the annual meeting of the Minnesota State Medical Association, Duluth, July 16, 1934.

today who have that conception. Nineteen nations live under Dictatorship. Perhaps only the English, the Scandinavian and part of the German-French and the people living in Western Europe, together with the people living in this country, have that true conception of liberty. I don't care what country your forefathers came from, the fact that they came here, the fact that you are here, is warrant enough that you have an understanding of that conception of liberty upon which this nation is built. The world must look to this country, to England, to the Scandinavian countries, to the people of Germany and of France, to preserve that conception of liberty for which people have fought for many centuries and upon which the future of the entire civilized world in my opinion depends.

Ours was the first written Constitution in the history of the world. Our Constitution, written September 17, 1787, by fifty-five earnest men who spent the summer from April to September, working earnestly together in Philadelphia, attempting to save this nation! That was a time of real emergency! Men weren't thinking then of material things. They were thinking of saving this country for which they had fought during the Revolutionary War and for which tremendous sacrifice had been made. They saw our nation disintegrating! They saw the thirteen Colonies falling apart! They saw the Bill of Rights suspended in four states, the right of trial by jury suspended in other states; they saw civil war in Massachusetts; they saw only two hundred thousand dollars collected in taxes in the year preceding 1787; they saw our treaty with France and England openly repudiated and men talking of returning to the monarchy! And so, when these fifty-five men gathered around this table in Philadelphia in 1787, it was to save this nation. This Constitution was written in time of emergency. We talk of emergency now, and talk of emergency legislation, and of decisions written in the light of emergency. Our constitution, the basic law of which I speak, was written in a time of the greatest emergency and in the light of emergency, and by these fifty-five men. Forty of them were under thirty-five years of age, three of them under twenty-five years of age, and only three of them over sixty years of age. Benjamin Franklin, eighty-one years of age, George Washington, Alexander Hamilton, Thomas Jefferson, all these men had sacrificed their all for the Revolution and had seen this country fall apart under the Articles of Confederation. These men gathered there to make a last great attempt to save this nation! When they had finished, and when the Constitution was finally signed (and it was only signed by thirty-two of the fifty-five), on September 17, 1787, there wasn't a single new thing in it—not a single new idea save only the dual conception of government with residuary powers retained by the states and delegated powers to create a federal government. Where did the Constitution come from? The answer is that the Constitution of the United States had been in the making for a thousand years, yes, for ten thousand years! We get our law from England, no matter what country we come from, and so we look to England to see how the Constitution of the United States developed there through the history of England. We look back to the year 410 when the Roman Army invaded England, followed by the invasion of Germanic tribes, the Anglo Saxons and Goths, who drove the Celts before them into Scotland and Wales, and across the sea into Ireland, occupied the land and set up their own government, and so lived until Egbert in 815 made England a united nation—and then, down through the feudal times and down through the Norman Conquest,—England ruled by the Norman Kings until the year 1215, when we see our Constitution for the first time taking definite form when the Magna Charta was written. On an island north of London, in the Thames River, at Runnymede, the freed men of England, the Saxon Barons, at the point of the sword, wrung from King John and the Norman nobles that great charter of rights which they called the "Magna Charta." At Runnymede we secured the right of trial by jury. You hear people talk and sometimes criticize the right of trial by jury. It has served them these seven centuries, and thinking people, I don't believe, would give it up today for all they possess! We secured there, seven centuries ago, the right of personal liberty and the right of protection of property. Many times Englishmen lost those rights! Many times they were taken away from them by despots, but always won back with greater rights and down through the centuries they fought continually for their Constitution, for their rights—a continual fight between the people on the one hand, and the nobles on the other.

Another great step forward toward the foundation of our Constitution was the Petition of Rights of the year 1629. Since the year 1669, which the English call the year of their glorious revolution, when they secured the establishment of Parliament in its present form, and when they secured their Bill of Rights, the right of religious freedom, the right of free speech, the right of free press, the right not to permit the King to quarter soldiers upon them, the right to govern themselves, to control peace and war, the English people have been a free people and have been a self-governing people. Then they turned to the establishment of the colonies in America, and these twelve colonies (there were not thirteen originally, but twelve) were established under royal charter. They were not ruled by Parliament, and when these colonists came to America to establish these colonies under English rule, their first act was to again re-write their Bill of Rights. The most treasured thing which they possessed was the restatement of their Bill of Rights, the right of religious freedom, the right of free press and free speech, and all these other great rights. Of the twelve colonies, each one had a Bill of Rights. Some colonies that established their own government and their own Assemblies had divided their government into the Legislative and Judicial and Executive, and so even that idea was not new in the Constitution. There was much discussion while the Constitution was taking form and it was written after much difficulty. It was only saved on the last night by the eloquent speech of Benjamin Franklin, eighty-one years of age, in which he said:

"There are many things in the Constitution, which I do not like, which I do not at present approve and I am not sure that I will ever approve them, for having lived long I have experienced many instances of being obliged on further information and a fuller consideration to change opinions even on important subjects."

It was his wish that he might live a hundred years to come back and see how the people of this nation had developed under this Constitution. They had not only given them a Constitution, but had given them the machinery by which to change it. He expected there would be a nation here of a hundred million people. He had looked forward and had foreseen this tremendous development which afterwards took place. He hoped and believed that this Constitution would grow and change as the nation grew and changed—would grow and change to suit the changing needs of a changing people!

The Constitution as written was the thing for which people had fought, for seven centuries, and it was but a restatement of all the great rights which a free people possessed. We breathed new life in it! We put it into written form! We made it the cornerstone of our nation and the foundation law of our land. We made it the first written Constitution in the history of the civilized nations of the earth, and I think that when we want to have people understand the Constitution, when we want to teach it, when we want to have the man in the street revere the Constitution and fight for it and defend and respect it, we want to tell him that it is his Constitution, that it is his Magna Charta, that it is his Bill of Rights, that it is his Petition of Rights, that it is the thing that guarantees him the right to go to church free and unmolested on Sunday, that it is the thing that guarantees him the right of trial by jury, free speech and free press, and it is my belief that if you teach people that this Constitution is their Constitution, that it is their Magna Charta, that it is their Bill of Rights, that you need have no fear for the future of this nation. We are going forward to whatever changes and whatever developments may take place, peacefully and in an orderly way. We are going forward to that time when all people will be able to live a better and a fuller and a more significant life. We are going forward to those changes lawfully under the Constitution and through the agency of that machinery which was set up by the men who originally wrote that great document.

Bryce said it was the "greatest body of men that ever sat in single chamber." Gladstone said it was "the greatest document ever struck off by Human hands at one time," and when he said that he was thinking of all of the great documents of history written at various times in the development of the English Constitution.

When the makers of the Constitution were through with its writing, and when these men had returned home, John Hancock and Samuel Adams wrote back to Washington and to Franklin that the Constitution could not be ratified in Massachusetts, and they were asked "why." They said because it does not contain an exact restatement of the Bill of Rights, the right to go to church when and where you want to go, the right

to speak as you will, the right to criticize the President of the United States if you will, the right of free speech, the right of free press, the right of trial by jury, and Hancock and Adams being the Radicals of their time said, "you must amend this Constitution," and so, before the Constitution was submitted to the voters of the various Colonies, it was amended ten times,—ten times in its first year of life,—ten times before it was finally adopted by the thirteen colonies and became the basic law of the land!

I like to read and I like to think of the Constitution of the United States as it has been spoken of by that great liberal, one of the greatest judges who has ever sat upon the Supreme Court Bench,—Justice Oliver Wendell Holmes. His conception of the Constitution as written in the case of Abrams vs. U. S., 1919, is as follows:—

"When men have realized that time has upset many fighting faiths, they may come to believe even more that they believe the very foundation of their own conduct that the ultimate good desired is better reached by free trade in ideas, that the best test of truth is the power of the thought to get itself accepted in the competition of the market, and that truth is the only ground upon which their wishes safely can be carried out. That, at any rate, is the theory of our Constitution. It is an experiment, as all life is an experiment."

I believe that the great problem which faces this nation today is to bring home to our citizens of all classes, an understanding of the real meaning of the Constitution, teaching them that the Constitution is not the document of the proper-tied class, or the improper-tied class, that without it they would not be free men, that this nation was founded upon that conception of liberty and that their Constitution is a growing, and a breathing and a living document, and that it can grow to suit their changing needs. You should read it thoughtfully. You should talk the Constitution! The schools should talk it, the press should talk it, the men of your profession have a duty with respect to it, and I say when you actually come to the time when you teach all people that this is their shield against oppression, there need be no fear in this country of revolution. I think this is a great document that we are privileged to hand down to our children. There is no greater heritage than this heritage which was won by many centuries of fighting, which was won over a struggle which goes back into two thousand years of English history. This Constitution is a great document! It is worth revering. It is worth upholding,—but most of all and particularly for the intelligent and educated people, I believe it is worth understanding!

THE PUBLIC INTEREST IN PROFESSIONAL STANDARDS*

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Saint Paul

YOU have extended to me a great privilege by inviting me to make this address. I appreciate the honor very much. The subject of my address, "The Public Interest in Professional Standards," suggested itself by reason of recent public discussion of this important subject and by recent litigation involving this question, in which I, as Attorney General, appeared as counsel. This subject has been made of immediate and particular interest by efforts to strike down the Basic Science Law of Minnesota by having it declared to be unconstitutional and by attempts to evade its provisions by the practice of medicine by corporations and laymen in violation of its provisions.

Thus, on the one hand, has the importance of professional standards been brought into question by an attack on the law, which has for its purpose the maintaining of scientific standards in medicine and surgery, and on the other hand, the importance of this law is emphasized by the attempts to nullify it by evasion of its provisions. That the public has an interest in these questions seems to be self evident. The fact that laws providing for scientific qualifications, for the practice of medicine and surgery, and for their strict enforcement, have been enacted, strongly suggests that the public has an interest

*Address before the annual meeting of the Minnesota State Medical Association, Duluth, July 17, 1934.

in professional standards. It is this question which I propose to briefly discuss.

Laws can be justified only upon the grounds that they promote and achieve public purposes and result in public benefits. To the extent to which these ends are accomplished are laws desirable. It seems rather obvious that our laws providing for Basic Science qualifications and special learning, study and training in medicine and surgery, evidenced by a diploma from an accredited medical school and by a license to practice from the State Board of Medical Examiners after due examination, have for their purposes, first, that only those who possess the requisite learning, training, ability and character shall be permitted to practice medicine; second, that these qualifications shall be grounded and based upon scientific knowledge; and, third, that public protection against incompetents, humbugs, frauds and quacks is best promoted and achieved by such requirements.

It seems to me that one of the great struggles of the race, beginning even before the dawn of recorded history, has been its fight against disease, and the consequent suffering, misery and death. From earliest times this struggle has been carried on by the medical profession as a special class of men set aside from the rest of the world for this purpose, in whom society has entrusted the function and art of healing. The history of mankind shows that this has been a hard and costly struggle, characterized by an onward march of progress from the dark days of ignorance and superstition, the days of the medicine man, priest and barber surgeon, with their terrible cost in human suffering, disease and misery to the present day of scientific medicine, which has to a large extent conquered disease and pestilence and alleviated human suffering and misery, with still greater conquests to be accomplished in the future. The present position of medicine and surgery and its accomplishments and achievements are due almost entirely to learned and scientific standards or qualifications imposed upon its practitioners, who through successive ages have waged the war from darkness to light, from ignorance to science, and carried on in the spirit of science and humanity.

The law has, from the earliest times to the present, regulated the practice of medicine and surgery in one way or another. At first there was no attempt to confine the right of practice to those who were qualified. At common law anybody could practice medicine and surgery. That accounts for the barber surgeons. It was thought that the public was amply protected by liability for malpractice or negligence on the part of practitioners and by the right of the government to proceed by quo warranto to prevent incompetents from practicing the medical profession.

Such rules, of course, were utterly inadequate to protect the public. They failed to keep out those who were unfit to practice medicine and surgery. It was found that many sincere but incompetent men were practicing a profession to which the public has entrusted matters of health, life and death. Quacks and charlatans exploited the people by trickery, by claims of miraculous cures and by mysterious rites. The people did not know who was competent and who was not. No means of knowing were readily available. To deal with these conditions laws along modern lines were enacted, regulating the practice of medicine and surgery and providing for educational requirements, and furnishing evidence to the public of such facts by the issuance of licenses to practitioners.

In a large sense the immediate object of such legislation was the protection of the public by excluding from the medical profession those who were unfit to practice it. Such laws were not primarily intended to promote the interests of medical schools nor to protect practitioners from competition nor to advance the interests of the medical profession as such. The Supreme Court of Nebraska, in the interesting case of Lincoln Medical College, etc., v. Poynter, 60 Neb. 228, 82 N. W. 855, said:

> "The purpose of the law is not to protect medical schools or medical practitioners from competition in business. It is a police measure, designed, as was said in State v. Buswell, 40 Neb. 159, 58 N. W. 728, 24 L. R. A. 68, to prevent imposition upon the afflicted by quacks and pretenders."

The Supreme Court of the State of Minnesota, in the Basic Science Case of State ex rel. Shenk v. State Board of Examiners, 189 Minn. 1, 250 N. W. 353, said that the court was not interested in the extent to which the medical profession may have sponsored the law nor its motive in doing so.

Such laws are upheld on purely public grounds. The best statement of the rule was made by the Supreme Court of the United States

many years ago in the case of Dent v. West Virginia, 129 U. S. 114, pp. 122-123:

"Few professions require more careful preparation by one who seeks to enter it than that of medicine. It has to deal with all those subtle and mysterious influences upon which health and life depend, and requires not only a knowledge of the properties of vegetable and mineral substances, but of the human body in all of its complicated parts, and their relation to each other, as well as their influence upon the mind. The physician must be able to detect readily the presence of disease, and prescribe appropriate remedies for its removal. Every one may have occasion to consult him, but comparatively few can judge of the qualifications of learning and skill which he possesses. Reliance must be placed upon the assurance given by his license, issued by an authority competent to judge in that respect, that he possesses the requisite qualifications. Due consideration, therefore, for the protection of society may well induce the State to exclude from practice those who have not such a license, or who are found upon examination not to be fully qualified."

"No one has a right to practice medicine without having the necessary qualifications of learning and skill; and the statute only requires that whoever assumes, by offering to the community his services as a physician, that he possesses such learning and skill, shall present evidence of it by a certificate or license from a body designated by the State as competent to judge of his qualifications."

Not only may there be requirements of learning and ability, but also of personal qualifications of honor and good moral character. Our Supreme Court has so held in State v. State Medical Examining Board, 32 Minn. 324, 20 N. W. 238, 50 American Reports 575, wherein it said:

"But the legislature has surely the same power to require, as a condition of the right to practice this profession, that the practitioner shall be possessed of the qualification of honor and a good moral character, as it has to require that he shall be learned in the profession. It cannot be doubted that the legislature has authority, in the exercise of its general police power, to make such reasonable requirements as may be calculated to bar from admission to this profession dishonorable men, whose principles or practices are such as to render them unfit to be intrusted with the discharge of its duties."

It is sometimes claimed that it is not in keeping with our democratic ideals to insist upon high standards of professional training for admission to the practice of medicine and surgery. The answer is that the public is entitled to the best possible service and it is only by requiring the best possible service that the health of the people can be protected. Dr. Nicholas Murray Butler of Columbia University expressed this same thought vigorously and tersely in the following sentence:

"A Democracy is under no obligation to be served by ignoramuses."

While it is undoubtedly true that such legislation, regulating the practice of medicine, was grounded upon considerations of benefits to the public, it is also true that legislators recognized that such laws may properly promote the interests of the medical profession. The promotion and protection of the interests of the profession are justified in turn upon the grounds that by so doing society advances its own interests. This is accomplished by establishing and maintaining a learned, well trained and qualified body of practitioners, to whom the members of society commit the most vital matters of health, treatment for disease and injuries and even life itself.

The Supreme Court of Minnesota in the Basic Science Case, speaking by Mr. Justice Stone, paid eloquent and well deserved tribute to the steady advance and the accomplishments of the medical profession, in the following language:

"We are not interested in the exteat to which the medical profession may have sponsored the law nor their motives in doing so. It is enough that, since the days of Hippocrates through those of Galen, Vesalius, and their modern successor anatomists, there has been great progress and splendid accomplishment in their science and the related arts of diagnosis and treatment. Lawmakers everywhere have taken note and have been doing so for a century or more. They began with laws facilitating the procuring of human bodies for dissection. Thereby doctors and their students were enabled to transfer their patronage from grave robbers, 'body snatchers,' to legitimate purveyors of cadavers. Other laws, regulatory and otherwise, followed. Finally came the restrictive regulation, through licensing, now familiar law everywhere. The basic science statute is the latest addition thereto. It departs somewhat from the older definition of the practice of medicine. Of its newer and broader category of the practice of healing, naturopaths have no complaint on constitutional grounds."

The Basic Science Law has for its purpose the requirement of knowledge on the part of all practitioners of the art of healing and of certain basic sciences, the better to qualify them from a scientific point of view for the important duties committed to their care. Such a law is in keeping with the history, best traditions and the ideals of medicine and surgery.

It is most significant, in my judgment, that the right to practice medicine and surgery is denied to corporations. It was expressly so held by our Supreme Court in the case of Granger v. Adson, decided November 3, 1933, 250 N. W. 722. Charters of corporations have been ordered forfeited in quo warranto proceedings in cases in which corporations attempted to practice medicine either directly or indirectly. One of these cases was decided in the District Court of Ramsey County, State ex rel. Attorney General v. Pioneer Health & Benefit Insurance Co., and the other in the District Court of Hennepin County, State ex rel. Attorney General v. Medical Service Co. The denial to corporations of the privilege of practicing medicine and surgery is significant because it emphasizes that the practice of medicine and surgery is a profession and not an ordinary trade or business, and that human experience has found that corporations are unfitted to discharge the high duties and functions of a physician and surgeon. I think that it may be safely asserted that the public generally believe that their interests as individuals and as members of society are best secured and promoted by limiting the right to practice medicine to individual physicians and surgeons whose labors are according to accepted standards and the ethics of the profession.

It seems to a layman—perhaps I am treading on dangerous ground in expressing an opinion—that the history of medicine and its onward march in the alleviation, cure and conquest of disease, human misery and suffering, with its brilliant achievements in all spheres of professional endeavor, private medicine and surgery and public health, is the story of the labors, discoveries, improvements of technic and achievements of individual laborers in the profession. This opinion is also expressed by Garrison, in the following language:

"Thus the history of medicine is also the history of human fallibility and error. The history of the advancement of medical science, however, is the history of the discovery of a number of important fundamental principles leading to new views of disease, to the invention of new instruments, procedures and devices, and to the formulation of public hygienic laws, all converging to the great ideal of preventive or social medicine; and this was accomplished by the arduous labor of a few devoted workers in science. The development of science has never been continuous, nor even progressive, . . . *It is no exaggeration to say that science owes most to the shining individualism of a few chosen spirits.*"

The achievemens of the profession are associated with the names of the men who have made them possible. They are like stars lighting up the firmament. We think of Hippocrates and Galen, Leonardo De Vinci and Vesalius, Harvey, Leeuwenhoek, Jenner, Pasteur and Lister, Koch, Klebs, the Mayos, Wassermann and Ehrlich, Dicks and Banting, Goldberger and a score of others. Some of the names mentioned tonight may take their place in the future with those that I have enumerated. It probably is not too much to say that the progress and achievements of the future will be the result of the labors of members of the profession working as individuals in the solution of specific problems.

Love of humanity, human sympathy, humane instinct and a spirit of service have been the impetus to the labors which have made medical progress and achievement. An all abiding loyalty to the cause of human kind, transcending states and nations, not counting the cost of labor and sacrifice, has characterized these generous sentiments. The laboratory, the test tube and the microscope have been but the instruments with which the scientist has worked. The genuine scientist and physician, although appreciating the true service and worth of his tools, has not permitted them to displace the fundamental and humane instincts which have moved men so to labor and so to sacrifice in the cause of science that all labor, all sacrifices and all achievements have had a humane end in view, namely, the cure, prevention, and conquest of disease and human suffering. These ends justify the maintenance of professional standards because the most importants interests of the race, namely, good health and the prevention of disease, are thereby protected and promoted.

Corporations cannot rise to this human feeling, this motive for human relief and betterment, which characterizes the true physician. They have no souls. They have no personalities, no human qualities. They have no social—nay, no professional—standards or outlook. To permit them to practice medicine is to strike a blow at those human qualities which characterized every good physician and surgeon, and to which the public is indebted for the labors and the achievements of the profession.

Conclusion

The interest of the public and of the medical profession are thus found to stand on common ground. The public is interested in professional standards for its own protection. This has been accomplished by excluding the unfit from the practice of medicine and permitting only those who are qualified to practice. The public, moreover, is interested in maintaining a learned, well trained and scientific medical profession, not only for its immediate protection but also to insure the progress and onward march of medicine. Incidentally the members of the medical profession are protected from the unfair, and in many instances the ruinous, competition of the quack and the charlatan. Protection of the profession tends to compensate for the public advantages thus gained.

In closing permit me to quote a paragraph from Oliver Wendell Holmes, in which he touches on the duties, the spirit of service, and the rewards of the profession, consequent on the maintenance of professional standards:

"Duty draws the great circle which includes all else within it. Of your responsibility to the Head Physician of this vast planetary ambulance or traveling hospital which we call Earth, I need say little. We reach the Creator chiefly through his creatures. Whoso gave the cup of cold water to the disciple gave it to the Master; whoso received that Master received the infinite Father who sent him. If performed in the right spirit, there is no higher worship than the unpurchased service of the medical priesthood. The sick man's faltered blessing reaches heaven through the battered roof of his hovel before the Te Deum that reverberates in vast cathedrals."

Professional standards tend to secure that high and scientific medical service, which we seek and which we hope to promote, rendered in that high sense of duty and which assures us that we can look forward to many great conquests and accomplishments of the profession in the future which will bless humanity. It is these benign results which are the result of professional standards and which are at the basis of the public interest in professional standards in medicine and surgery.

Permit me, also, to say in closing that, as the Attorney General of the State, I have had most pleasant relations with the medical profession. Your requests have been fair and reasonable. Your officers, the members of the State Board, your secretary and your attorney, Mr. Manley F. Brist, have been most helpful. Their efforts have been commensurate with the problems with which we have had to deal. I have enjoyed working with them. I want you to know that I appreciate these men. They are too self-effacing and modest to tell you about their own splendid work. My telling you is probably your only way of learning the fact.

I trust that our pleasant and cordial relations may continue and that your labors in the future will bring you those rewards which you so justly deserve.

DISSEMINATED LUPUS ERYTHEMATOSUS*

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THIS report correlates the data from laboratory and clinical observations of a group of forty-seven patients with disseminated lupus erythematosus, observed during the past ten years. Consideration of this material emphasizes the fact that this group of cases presents a variety of symptoms, laboratory findings, and pathologic states which, when gathered together, form a mass from which few significant etiologic facts may be gleaned. Nevertheless I feel that the presentation from time to time of such data is warranted, especially in regard to a disease that has such a high degree of mortality and against which our knowledge has proved so unavailing.

For didactic purposes lupus erythematosus may be classified as follows: (1) the chronic discoid, or fixed type, (2) the generalized discoid

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or chronic disseminated type, (3) the subacute disseminated type, and (4) the acute disseminated type.

The chronic discoid type is the most common. The erythematous, scaly, well-demarcated, pruritic, and sometimes indurated, plaques confined

Fig. 1. Subacute disseminated type. Lesions on chest, and alopecia may be noted.

to the nose and cheeks are commonly known. The epithelial plugging and the atrophy of the plaques are characteristic findings. The distribution of the lesions on the front of the face has led to the use of the term "butterfly type of lupus erythematosus." In addition, the lesions may be found on the scalp, lobes of the ears, lips, and on the mouth. This type of the disease is characterized by its chronicity, persistence, and the disfiguration it causes.

Generalized discoid lupus erythematosus, or chronic disseminated lupus erythematosus, differs from the localized discoid type in that the erythematous plaques are found not only on the face but also scattered elsewhere on the body. The upper portion of the thorax and the neck, the hands, arms, and occasionally the upper portion of the back may be involved. In the fixed and the generalized types of discoid lupus erythematosus, constitutional symptoms are lacking.

The disseminated types of lupus erythematosus appear in two forms: the rapidly progressive and fatal, acute type, and the milder, less intensive, subacute type. It is to these two manifestations of disseminated lupus erythematosus that the remainder of this report will be confined.

Summary of the Literature

The literature indicates that disseminated lupus erythematosus was first described by Kaposi in 1872. In 1931, Madden presented a group of nine cases of acute disseminated lupus erythematosus from the University of Minnesota, in three of which necropsy was performed, and he reviewed the literature to date. At the same time Mook, Weiss, and Bromberg reported a group of thirteen cases of lupus erythematosus disseminatus, of which four came to necropsy. As these authors have culled the significant facts from the literature I shall avoid repetition, and I refer the interested reader to these papers.

The published data on lupus erythematosus disseminatus of the acute and subacute types may be summarized briefly as follows: In acute disseminated lupus erythematosus there is a high mortality rate, the duration of the disease varying from a week to a year or more. The subacute types of the disease pursue a slower, milder course characterized by remissions from both the constitutional and cutaneous symptoms; in these cases there is a lower death rate. Studies of the etiology of the disease reveal that many concepts have been expounded but that no conclusive etiologic facts have been found. Disseminated lupus erythematosus has been attributed to pulmonary tuberculosis, tuberculous adenopathy, streptococci, sensitivity to light, trauma in the form of drugs and heat, toxic factors, injury to the superficial cutaneous blood vessels, focal infection, disease of the reticulo-endothelial system, and to disease of the bone marrow; nor is this a complete list of all the reported etiologic agents. The idea that tuberculosis was an etiologic factor in the disease is due to the fact that tuberculosis in one form or another was demonstrated in a fair proportion of cases; however, more recently there has been a tendency to mini-

mize the significance of the finding of tuberculosis in these cases. Many published case reports have contained records of patients who have had tuberculosis of the glands, lungs, or kidneys, and in some instances the bacillus of tuberculosis has been recovered from one of the viscera, but it has not been recovered from the skin. Kren and Löwenstein reported a high incidence of positive blood cultures of Bacillus tuberculosis in disseminated lupus erythematosus, but the work has not been confirmed in this country by Laymon and by others. Likewise, the data in regard to the etiologic significance of the streptococcus or staphylococcus have not been conclusive. Goeckerman emphasized the possibility that the combined effects of the bacillus of tuberculosis and streptococci might cause the disease. The incidence of positive blood cultures and the variety of the organisms obtained have made this finding to date of only presumptive significance. Photosensitivity is quite common in these patients, but it is not possible to explain the findings at necropsy and the symptoms which these patients present on the basis of sensitivity to light alone. Photosensitivity seems to be a feature of the disease rather than its cause. The various other etiologic theories, such as of focal infection, involvement of the reticulo-endothelial system, and so forth, have not as yet accumulated sufficient evidence to accredit them. Leukopenia, formerly thought always to be associated with the disease, is now known not always to be present; when noted, however, it is evidence of a severe degree of involvement and usually indicates a rapidly fatal outcome. Montgomery and Goeckerman believed that the histopathologic picture of disseminated lupus erythematosus was specific and accordingly urged that biopsies be done in all questionable cases. From the evidence that has been accumulated thus far it appears that the syndrome of disseminated lupus erythematosus is that of toxemia, probably attributable to an infectious agent.

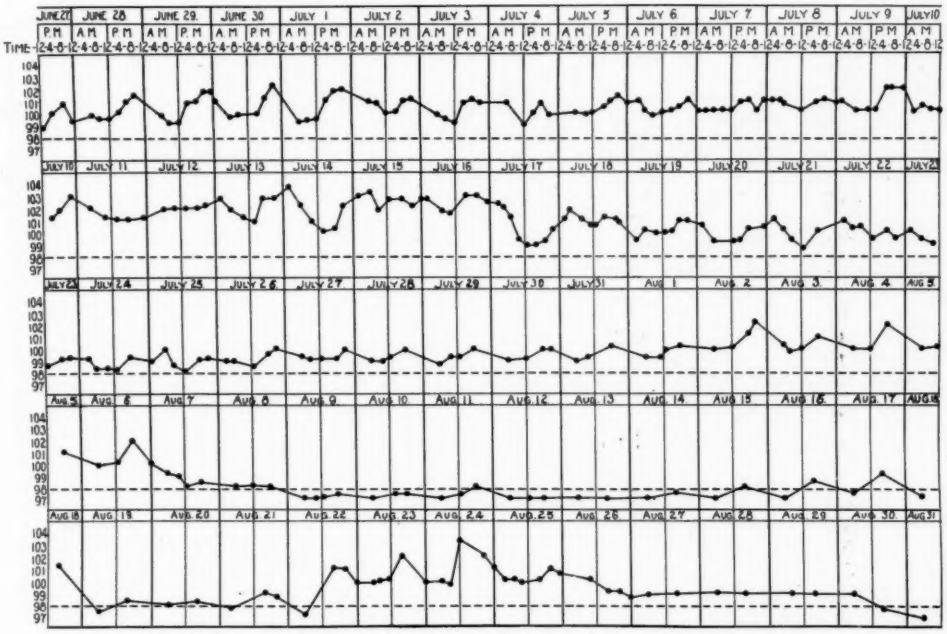

Fig. 2. Lupus erythematosus disseminatus. Typical septic type of temperature chart.

Symptoms

As the acute and subacute types are manifestations of varying degrees of the same disease, their symptoms will be discussed simultaneously (Fig. 1). The disease may be insidious in its onset, the patient frequently complaining of fatigue, exhaustion, and disability for months

before the cutaneous signs appear; or the onset may be abrupt, with the constitutional and cutaneous signs appearing simultaneously. Excessive fatigue is one of the outstanding complaints, often leading to the diagnosis of "chronic nervous exhaustion."

Fig. 3. Acute disseminated type.

Fever is a common finding. At first, it is slight, with a rise in the afternoon; then, when the disease becomes developed, the temperature may approximate 103° F. or higher, and remain elevated throughout the disease (Fig. 2). As a rule, persistent hyperpyrexia is an earmark of the fatal case. Pain in the form of arthralgia, myalgia, or neuritis appears early and may be severe. As the disease progresses, prostration and exhaustion become marked, and, when combined with the fever and profuse perspiration, give a picture of an overwhelming toxemia. Dermatitis and its attendant symptoms add materially to the picture of severe toxemia.

Gastro-intestinal symptoms, with diarrhea, loss of appetite, nausea, and vomiting may further confuse the clinical picture. The loss of weight is not marked until the disease is quite well advanced. It is not unusual to find the subacute type of the disease in a moderately obese individual.

Dermatitis

The dermatitis starts on the face or upper part of the thorax and neck as an indefinite superficial erythema which shortly becomes well-demarcated. Rapid extension of the dermatitis in this form may occur in the acute case, or the lesions may remain as discrete papules. In certain cases papular and bullous lesions may develop, the latter giving the appearance of pemphigus. In the cases of chronic discoid lupus erythematosus in which dissemination takes place as a result of trauma from irritating applications, sunshine, or ultra-violet light, the scaling erythematous plaques with the epithelial plugging and the superficial atrophy are to be found in conjunction with the newly forming erythematous areas. In the cases in which the chronic discoid lesions were not present previous to the development of the disseminated lupus erythematosus, the differential diagnosis may be more difficult, because the indurated plaques with the characteristic epithelial plugging, scaling, and atrophy are missing from the region of the nose and cheeks. Instead, the plaques are but slightly scaly and the plugging is insignificant. The lesions on the extremities are more discrete than those on the face; the red color is more livid in the subacute cases, whereas it is quite bright in acute types, since as new lesions develop they often simulate a first degree burn. In addition, the lesions on the extremities have multiform outlines and are to be distinguished from the more commonly seen erythema multiforme. In the severe cases the development of new lesions may continue until the face, forearms, neck, and the upper portion of the thorax present a confluent form of dermatitis with edema of the face, puffy eyelids, and alopecia (Figs. 3 and 4). Pruritus, burning, and tenderness, of varying degrees accompany the new lesions. As the intensity of the disease increases bullæ may become manifest, or, more rarely, hemorrhagic lesions may develop. The edema of the face and head, associated with the dermatitis, is always pronounced in the severe cases (Fig. 5). It has been my experience that the presence of the edema in association with the dermatitis usually indicates an unfavorable outcome. On the other hand, the extent of the dermatitis is not always propor-

tionate to the severity of the disease, as patients have succumbed rapidly to disseminated lupus erythematosus with but a small amount of dermatitis, and, likewise, they frequently die during remission of the dermatitis. Accordingly, it is impossible to prognosticate the course of the disease from the extent of the dermatitis, but the intensity of the dermatologic manifestation may be a valuable guide as to the eventual outcome.

Fig. 4 *(left)*. Acute disseminated type. General examination negative.
Fig. 5 *(right)*. Acute disseminated type. Edema and marked crusting.

Residual pigmentation is a feature of disseminated lupus erythematosus, and if remissions develop, the pigmentation may remain for several years. Likewise, atrophy is to be noted as the dermatologic process involutes. Alopecia of the scalp, eyebrows, and pubic area is usually present in the severe cases.

Course of the Disease

Mention has already been made of the fact that in the acute cases the progress of the disease is rapid and that death may ensue in from two weeks to approximately a year. In these cases remissions do not develop and the course is progressively unfavorable. In the milder types of the disease, with slight constitutional symptoms, remissions are not uncommon, during which time residual pigmentation and atrophy are accompanied by varying degrees of fatigability and exhaustion. Death may rapidly ensue even while there is an apparent remission, or a recurrence of the dermatitis and constitutional symptoms may again incapacitate the patient. Diseases of the viscera of one type or another are numerous and varied in disseminated lupus erythematosus. Nephrosis, nephritis, pneumonia, meningitis, pleurisy with effusion, ascites, pericarditis, mastoiditis, endocarditis, and varieties of tuberculosis have been encountered in these cases.

There have been two cases in this group in which acid fast bacilli (tubercle?) were recovered from the urine. In both these cases the bacilli were not present constantly but appeared in showers at irregular intervals accompanied by accentuation of the constitutional symptoms.

The presence of foci of infection in the teeth, tonsils, or prostate gland is readily demonstrated in most of the cases. I mention foci of infection at this point because of the severe sequelæ or even fatalities that may follow the injudicious manipulation of such foci. Goeckerman has already emphasized the need for great caution in this regard. It is my practice, for example, to remove one tooth at a time and to note the reaction, and to allow a week or more to pass before continuing with the extractions. If possible, the removal of foci should be done while the patient is in a state of remission.

Pneumonia has been the most common cause

TABLE I. FINDINGS AT NECROPSY IN TEN CASES OF ACUTE DISSEMINATED LUPUS ERYTHEMATOSUS

Case	Age, years and sex	Tuberculosis	Lungs	Heart	Spleen
1	62 F	Healed tuberculosis of lung and mesentery	Bronchopneumonia		Multiple infarcts
2	16 F	Tuberculous mesenteric lymphadenitis; bacillus of tuberculosis found on smear; tuberculous enteritis and peritonitis	Lobar pneumonia (right); bronchopneumonia (left); pneumococcus type 2	Anemic infarct	Miliary tuberculosis; chronic perisplenitis
3	34 M	Healed tuberculosis of hilum, nodes and lung	Healed tuberculosis; bilateral bronchopneumonia		Multiple infarcts
4	58 F	Healed tuberculosis of pleura and mesentery	Terminal bronchopneumonia		
5	40 F	Granuloma of lungs (tuberculosis?)	Granuloma of lungs (tuberculosis?); pleural adhesions; hydrothorax	Hypertrophied	Passive congestion
6	22 F		Edema	Endocarditis; terminal vegetative endocarditis; fatty myocardium	Many infarcts
7	31 F		Edema and congestion	Rheumatic aortic and mitral endocarditis; subacute bacterial endocarditis with septic infarcts; hypertrophy	Septic infarcts; mild hypertrophy
8	21 F		Terminal bronchopneumonia; bilateral hydrothorax; edema and hemorrhage	Hypertrophy of left ventricle; fatty myocardium	
9	19 M		Terminal bronchopneumonia with edema		
10	24 F		Terminal bronchopneumonia; edema and congestion	Fatty myocardium; pericardial effusion	Moderately enlarged

of death and caution must be exercised to prevent possible exposure to respiratory infections. Splenomegaly was found clinically in three cases, and hypertrophy of the liver in four.

In addition to the complications already noted, I have seen subacute disseminated lupus erythematosus associated with psoriasis, Raynaud's disease, hyperthyroidism of the exophthalmic type (in which thyroidectomy was successful and decidedly beneficial in one case), pregnancy in four cases (which terminated successfully in each), scleroderma, and with carcinoma of the larynx. In the differential diagnosis pellagra, erythema multiforme, erysipelas, dermatitis from drugs, and photosensitivity must be considered.

In my series there are twenty cases of acute disseminated lupus erythematosus of which ten came to necropsy, and twenty-seven of subacute disseminated lupus erythematosus in none of which necropsy was performed. It is my purpose to record briefly the findings at necropsy in these ten cases (Table I).*

Summary of Laboratory Data of Twenty Acute Cases

Anemia of marked degree was found in three-fourths of the cases, leukopenia (less than 4,000 leukocytes per cubic millimeter of blood) in ten. A positive blood culture was obtained in three cases, whereas in nine others cultures were repeatedly negative; Streptococcus viridans was found in two cases and staphylococcus in another just prior to death. In fourteen of these cases the roentgenogram was reported negative for

*The home physicians, in three additional cases in which necropsy was not done, notified us that one patient died of Bright's disease with uremia, another died of acute miliary tuberculosis, and the third died of acute mastoiditis followed by nephritis. The remaining seven are also dead, but the immediate cause of death is not known.

TABLE I (CONTINUED). FINDINGS AT NECROPSY IN TEN CASES OF ACUTE DISSEMINATED LUPUS ERYTHEMATOSUS

Case	Age, years and sex	Liver	Kidney	Blood vessels	Brain	Gastro-intestinal tract
1	62 F		Multiple infarcts (right)	Thrombosis left iliac artery and vein; marked arteriosclerosis		
2	16 F		Acute diffuse nephritis			Acute tuberculous enteritis and peritonitis
3	34 M	Moderately enlarged		Arteriosclerosis		
4	58 F			Mild arteriosclerosis	Acute pneumococcic meningitis	Gallstone
5	40 F	Passive congestion	Chronic diffuse nephritis	Mild arteriosclerosis		
6*	22 F	Marked enlargement	Iron pigment present	Slight arteriosclerosis		
7	31 F		Septic infarcts; old pyelitis	Mild arteriosclerosis	Infarcts	Old ulcerative colitis
8	21 F	Fatty changes				
9	19 M		Congenital cysts	Severe purpura hemorrhagica		
10	24 F					Ascites

*Red marrow present in bones.

evidence of pulmonary tuberculosis; in five, arrested tuberculosis was indicated, and in one the report indicated an active pulmonary tuberculosis. Evidence of nephritis was indicated by the presence of casts, albumin, and pus in varying degrees in nine of the cases; in these nine the chemical constituents of the blood were studied, the value for urea varying from 8 to 180 mg. per 100 c.c. of blood. In the case of ascites, tests of hepatic function were reported as showing marked degrees of insufficiency.

Summary of Laboratory Data of Twenty-seven Subacute Cases

In slightly more than half the cases marked anemia was present, while in eleven (41 per cent) leukopenia (less than 4,000 leukocytes per cubic millimeter of blood) was found. Blood cultures were made in five cases in which four were negative while one was reported as containing diphtheroids and nonhemolytic streptococci. In nineteen cases roentgenograms of the thorax were negative for signs of tuberculosis, whereas in one the roentgenograms disclosed healed pulmonary tuberculosis, and, in another, thickened pleura at the base of the left lung with calcified glands. Varying degrees of nephritis were also demonstrated in this group of cases.

Conclusions

1. In a group of forty-seven cases of disseminated lupus erythematosus, twenty-six were found to have clinical evidence of tuberculosis in one form or another, and in the ten cases which came to necropsy, tuberculosis was demonstrated in five.

2. The outstanding findings in the material from necropsy were tuberculosis, endocarditis, infarcts in the spleen, diffuse nephritis, and terminal bronchopneumonia. Pleural effusion and ascites from passive congestion were noted quite often.

3. Anemia and leukopenia were present in half the cases. Cultures of the blood were positive in four attempts of twenty-four made in fourteen cases. Of the four positive cultures, two were obtained from patients with endocarditis; the third was obtained while the patient was in extremis.

4. Focal infection was noted in forty of the forty-seven cases.

5. The twenty patients with the acute type died on the average of nine months following the dissemination of the disease, whereas eight of the twenty-seven patients with the subacute type died on an average of four and a half years following dissemination. Rogin and I have called attention to the fact that there are seven patients with the subacute type who apparently are cured.

6. Treatment of the subacute type consisted of rest in bed, transfusions of small amounts of blood, administration of quinine, plasmochin and small doses of gold sodium thiosulphate, and roentgen irradiation of the gland-bearing regions of the body.

7. The evidence at hand suggests that disseminated lupus erythematosus is a toxemia in which tuberculosis plays an insignificant part, and that evidence of a specific infectious agent, although suggestive, is still lacking.

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THE TREATMENT OF HEAD INJURIES*

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IN presenting this paper, which has to do with the successful handling of patients who have sustained injuries to their heads, I would like to say, that I believe most patients are satisfactorily treated, a few are overtreated, and a small percentage suffer or even die as a result of faulty diagnosis, faulty judgment, and lack of treatment. The tendency was and is now, although somewhat less so, to overtreat patients who have received such an injury.

At the outset I would like also to emphasize that injury to the brain, and to its coverings, the meninges, the large intracranial sinuses, and to the middle meningeal arteries, is of prime importance, whereas injury to the scalp and to the skull is in itself of minor consequence. So far as I know no one has ever died as a direct result of simple laceration of the scalp or of simple fracture of the skull; it is only when these injuries are complicated by injury to the brain or to the intracranial vascular channels that serious consequences may result. In order to simplify the subject I have divided cases of head injury into two main groups, minor and major injuries:

Minor Injuries

Under this heading should be included all cases in which a blow on the head has been sustained, in which there has been no loss of consciousness nor evidence of involvement of the central nervous system, and in which roentgenologic examination of the skull for fracture has given negative results. Rarely will a patient with a scalp laceration fall into the second group, which consists of major injuries, because of severe loss of blood due to laceration involving one of the principal arteries of the scalp.

Patients with minor injuries to the head can be satisfactorily treated in the office. If there is

*From the Department of Neurologic Surgery, The Mayo Clinic, Rochester, Minnesota. Read before the meeting of the Wabasha County Medical Society, July 5, 1934, Lake City, Minnesota.

laceration of the scalp, the edges of the wound should be shaved and the wound thoroughly cleansed with tincture of green soap and with hot water. Careful exploration should then be carried out for foreign bodies, especially if laceration is the result of flying glass as from the windshield or window of an automobile. The wound should be swabbed with an antiseptic; I prefer tincture of merthiolate, 1:1,000, or tincture of iodine. The edges of the wound should then be approximated loosely with interrupted sutures of silkworm gut, dermal, or of silk. If it is impossible to control bleeding with tying of the suture, each bleeding vessel must be caught and tied or controlled with a suture ligature lest a hematoma develop beneath the edges of the wound. For the first twenty-four hours a firm compression bandage is advisable. The exploration and suture of the wound is best done under local anesthesia, a 1 per cent solution of procaine being used; among children, gas anesthesia is often advisable and, at times, necessary. If general anesthesia is necessary, hospitalization for a few hours following recovery from the anesthetic of course is advised. If the wound is contaminated with dirt or there is suspicion of soiling, a prophylactic dose of tetanus antitoxin should be given.

Major Injuries

This group comprises all cases in which patients have had a lapse of consciousness, are unconscious or in shock, present symptoms or signs of involvement of the central nervous system, have simple, depressed, or compound fractures of the skull, and those whose head injury is one of a group of injuries sustained during an accident, for today more and more people are encountered with multiple injuries as a result of the mechanization of industry and of speedier methods of travel.

All of these patients should be hospitalized and kept under close observation for at least twenty-four hours, during which time the blood pressure, and pulse and respiration rates should be recorded at frequent intervals. The state of consciousness, mental reactions, and movements of the limbs also should carefully be noted.

Of this group of patients with major injuries a small percentage will be in such poor condition that all measures are likely to be without avail, and death will ensue within the first twenty-four hours after admission. One should never lose hope, however, for now and then a patient who looks hopeless will respond to conservative treatment and make a nice recovery. Generally speaking, though, a patient who does not give evidence of immediate response to treatment has suffered irreparable injury to the brain, and all attempts, conservative or radical, are of course incapable of restoring such individuals to health.

Most patients with major injuries to the head are in a state of shock, that is, they are unconscious or only partly conscious, the blood pressure is low or imperceptible, the pulse is rapid and feeble, and the skin is cold and clammy. The pupils may be dilated and react poorly to light. When a patient is seen in this condition the indication, of course, is to combat shock. Shock is best overcome by application of external heat in the form of hot water bottles and blankets, avoidance of drafts, lowering of the head and, if hemorrhage from a large vessel of the scalp is contributing to the lowering of blood pressure, immediate control of such hemorrhage. At times, a pressure bandage is sufficient to control bleeding; however, as blood pressure rises, bleeding is likely to start again, so it is well to catch the bleeding vessel with a forceps or pass a suture ligature around it and tie it in order to prevent further loss of blood. If shock is profound, pituitrin (surgical) given hypodermically or even intravenously may be used with great success. This drug acts quickly, but its effect is fleeting. Ephedrine, on the other hand, acts a little more slowly, but its effect is more prolonged. Warm, black coffee, when given by rectum, also is effective in combating shock. Acacia (6 per cent) may be used intravenously to increase the volume of circulating fluids, but if there has been much loss of blood, a transfusion of citrated blood is the best treatment.

Time should not be taken to care for and to suture the wound thoroughly until shock has been controlled.

Pain may be a contributing factor in the production of shock, especially if there is injury to some other part of the body, such as, for instance, rupture of a kidney or fracture of one of the long bones. Sedatives, preferably codeine hypodermically, should then be administered. Morphine should be avoided in cases of injury to the head because of its depressing effect on the nervous system, especially on the respiratory

center; morphine also masks pupillary changes. When morphine has been given, and the patient becomes very quiet and the respirations slow, it is often impossible to tell whether the change in the patient's condition is the result of morphine or whether it indicates the onset of increased intracranial pressure from cerebral edema or from intracranial hemorrhage.

While shock, if present, is being combated, the head should carefully be inspected and palpated for evidence of lacerations of the scalp and for fractures of the skull. The ears, nose, and mouth should be examined for evidence of bleeding that is so often seen with fractures of the base of the skull. Oftentimes one has to rely entirely on the finding of blood in the ear for the diagnosis of a basal fracture, as these fractures are difficult or impossible to demonstrate by ordinary methods of roentgenography.

Inspection and palpation also may reveal a hematoma of the scalp, without laceration, beneath which there may be a linear fracture. Depressed fractures of the vertex are easily diagnosed by palpation alone. As one moves the fingers across the smooth, curved head one may encounter a sharp, firm margin beyond which there is a distinct depression. The depressed bone may be fixed or movable, and rarely is one able to detect bony crepitus as in fractures of other bones of the body.

No one questions the advisability of roentgenologic examination of the head in cases of cranial trauma, but there is a good deal of argument on the part of some as to the time when the patient should be subjected to this examination. At the clinic it is felt that this examination should be made immediately, and all patients with head injuries are sent directly for roentgenologic examination on admission to the hospital. There are many reasons for this practice. The first and most important reason, from both the patient's and the examining physician's standpoint, is that it enables one to tell within a few minutes whether or not there is a depressed fracture; when this is known, future treatment can be outlined intelligently and without undue suspense as to whether or not the patient has an injury which demands immediate, active, surgical intervention; also, it can be determined whether or not there is a linear fracture extending across one of the middle meningeal grooves. The importance of this latter information will be referred to later. Another very important factor to be considered is the medicolegal aspects of the case. Today, with so many people carrying insurance to protect themselves as well as their automobiles, and the more or less common practice of instituting suit against employers, insurance companies, and others involved in a given accident, it is imperative that the physician protect his patient's interests and his own reputation by having roentgenograms made which can be used in event of litigation. Obviously the best time to have these plates made is at the time the patient is admitted to the hospital. Some patients live only a short time after severe cranial injuries and it might be difficult to obtain roentgenograms.

While the roentgenologic examination is being conducted, the patient may be treated for shock, lacerations may be dressed and even sutured, and a search for other injuries carried out. A superficial neurologic examination also may be performed, in the course of which the size and reaction of the pupils, extra-ocular and facial movements, the power of the extremities, and the presence or absence of pathologic reflexes may be noted.

In the absence of a depressed fracture and of signs indicative of localized injury to the brain, injuries to the scalp should be cared for and the patient put to bed under very close observation. If the patient is conscious and his general condition is satisfactory, ice caps to the head and analgesics, such as acetylsalicylic acid or codeine, in small doses, for headache, may suffice. Fluids should be limited to an intake of 1,500 c.c. for the first twenty-four hours and they should be in the form of fruit juices and sweetened drinks. This is to limit reactionary edema and swelling in the brain.

If the patient is not doing well, and irrespective of whether roentgenologic examination has demonstrated a fracture of the skull, a diagnostic and therapeutic lumbar puncture may cautiously be performed. Lumbar puncture should not be done in the presence of compound fracture of the vault or of the base because of the danger of the introduction of bacteria when the current of cerebrospinal fluid is started down the spinal canal after fluid has been escaping through a rent in the meninges and skull. Patients with compound fractures decompress themselves or lower their own intracranial pressure, and lumbar punc-

ture is, therefore, unnecessary as a diagnostic or therapeutic measure.

Some very excellent neurosurgeons advise against the use of lumbar puncture in cases of cranial injury, but I believe it is one of the greatest aids in selected cases and, when cautiously used, free of danger. I am confident that many lives have been saved and that many patients have been spared major complications as a result of wisely conducted spinal drainage. Spinal drainage and intravenous injection of hypertonic (20 to 50 per cent) glucose solutions are our mainstays in the control of increased intracranial pressure resulting from injury to the brain, and these measures have lowered the incidence of the necessity for operative intervention and the mortality rate in cases of cranial injury. Today it is rarely necessary to perform subtemporal decompression in cases of pure cerebral edema resulting from trauma.

Operative intervention, therefore, is indicated only in cases of depressed fracture and in cases in which signs of localized pressure or irritation are exhibited as determined by neurologic examination. The time interval which elapses between cranial injury and the appearance of symptoms and signs of compression of the brain is very important in the differential diagnosis of the cause of compression. Depressed fractures produce symptoms immediately, whereas hemorrhage requires a few hours in which to produce a clot large enough to give signs of a space-occupying lesion. If symptoms do not appear for a day or two, the most likely cause is edema of the brain from contusion caused by jolting of the brain in the rigid cranium.

In cases of depressed fracture, the fragment or fragments should be elevated and replaced, if the fracture is not compound; if the fracture is compound, it is probably better to remove the fragments because of the danger of infection and of development of an osteomyelitis that would necessitate later sequestrectomy.

In extradural hemorrhage, originating from a tear in one of the middle meningeal arteries, there usually is a definite triad of developments. The patient is momentarily unconscious from a blow on the head; this is followed by a lucid interval which is supplanted several hours later by a state of unconsciousness and stupor. This history, together with a roentgenogram revealing a fracture extending across one of the middle meningeal grooves, enables one to make a diagnosis of extradural hematoma of middle meningeal origin. It has been taught that, in subarachnoid hemorrhage or bleeding from cortical vessels, the cerebrospinal fluid is bloody, and that, in extradural or middle meningeal hemorrhage, the fluid is clear. That is true as far as it goes; one may, however, find bloody spinal fluid from tearing of a middle meningeal artery and, of course, the two conditions may co-exist. Recently, at the operating table, I was able to demonstrate the passage of blood from a torn, middle meningeal artery into the subarachnoid space and the passage of clear fluid from the subarachnoid space into the trephine opening. This patient's spinal fluid had been bloody on lumbar puncture. He made an excellent recovery following ligation of the torn, middle meningeal artery and removal of a large extradural hematoma.

If, in the absence of evidence of a break in the continuity of the skull, the patient has convulsions involving one extremity or one side of the body, or if he has definite weakness of a member, the opposite side of the brain should be explored for a progressively enlarging, intradural hemorrhage. Preliminary lumbar puncture will reveal bloody fluid under increased pressure.

In cases in which there is leakage of cerebrospinal fluid or in which a fistula develops as a result of a basal fracture extending into the paranasal sinuses, the pharynx or ear, treatment should be conservative. Active intervention in the way of operative procedure is likely to result in meningitis, with a prolonged and complicated convalescence, or even in death. Spinal puncture should not be done for the reasons mentioned before. Instead, the patient should be propped up in bed and methenamine (urotropine) administered so long as the fistula remains patent. The position is important because it allows the brain and its surrounding membranes to settle down against the line of fracture and seal it off, purely as the result of gravity. Methenamine acts as a meningitic antiseptic. When there is leakage of cerebrospinal fluid as a result of basal fracture, the patient should be warned not to blow his nose because of the danger of ascending infection and of meningitis. In cases in which cerebrospinal fluid leaks through the ear, special attention should be paid to the ear or ears involved. The ear should not be irrigated or tightly plugged;

instead, a small pledget of sterile cotton, wrung out of a saturated solution of boric acid, should be left in the external auditory meatus. This should be changed as often as necessary to insure complete absorption of all fluid discharged through the rent in the meninges.

Patients who have sustained severe cranial injury should be kept under observation for some time after they apparently have completely recovered, and they should be warned concerning the possibility of development of post-traumatic sequelæ. Such sequelæ are prone to develop in compensation cases, and it is at times a most difficult problem to decide whether a given patient has real trouble or whether in his desire for a satisfactory settlement of his claim he consciously or subconsciously magnifies his symptoms. However, as soon as the patient is able, graduated exercises should be started, his claim settled, and he should be urged to return to work.

The most common sequelæ to injuries of the head are headache and dizziness, both of which are subjective phenomena that cannot accurately be estimated. Headache in many cases is undoubtedly real and is due to faulty absorption of cerebrospinal fluid, which results in chronic hydrocephalus and in increased intracranial pressure. This condition can be ameliorated by limitation of fluid intake and by careful attention to the bowels, using laxatives, if necessary, to secure daily movements. Occasionally, repeated spinal drainages are necessary until the absorptive mechanism catches up with the secreting mechanism. Dizziness at times is quite troublesome to the patient and a major problem to the physician; it may result from a fracture that has involved the ear and semicircular canals, or it may be a sequel to petechial hemorrhages in the cerebellum. Reassurance, regulation of habits, and a mild sedative, such as one of the many preparations of bromides or of phenobarbital (luminal), often help. Occasionally dizziness is so disabling as to warrant, in selected cases, intracranial section of the eighth (auditory) nerve.

Epilepsy is an unfortunate complication that may arise in any case and one whose occurrence is impossible to forecast. If this complication does appear, and seizures are mild and infrequent, they may be controlled by regulation of the patient's habits and by administration of a saline cathartic when a seizure is anticipated. Some patients require bromides or phenobarbital, either alone or alternately, for indefinite periods. Operation in post-traumatic epilepsy is not indicated unless a foreign body is present or the seizures are Jacksonian in type; even then results are not always brilliant.

Not infrequently patients are seen at the clinic who give a history of cranial trauma, which at the time of the accident was considered quite mild, who have never recovered completely, even though several weeks or even a few months have passed. In such cases the condition may be due to cerebral compression from chronic, subdural hematoma or from a collection of blood between the dura mater and arachnoid. If neurologic investigation reveals signs of increased intracranial pressure, exploration should be carried out. Evacuation of these accumulations of blood gives very good results.

In conclusion, I wish to state that each case of head injury is in itself an individual problem and should be so managed. When these patients are studied carefully, closely observed, and treated according to the indications in the particular case, the results are very gratifying. Treatment should be as conservative as possible.

CARBARSONE

p-Carbamido-phenylarsonic acid, containing from 28.1 to 28.8 per cent of arsenic (As).—Carbarsone is proposed for the treatment of intestinal amebiasis. It is administered usually by mouth; in acute amebic dysentery or in resistant cases, retention enemas may be employed. While carbarsone is said to be less toxic than acetarsone and serious untoward effects appear to be uncommon, cutaneous disturbances and other reactions common to arsenic compounds have been observed. While visual disturbances appear to be quite rare, the possibility of their occurrence should be kept in mind. Excretion of the arsenic is relatively slow; suitable rest periods must therefore be interposed in the treatment to prevent cumulative effects. In view of the frequency of persistent infection in the absence of marked symptoms, adequate therapy includes reexaminations and repetitions of courses of treatment. The usual oral dosage for adults is 0.25 Gm. twice a day for ten days. As retention enemas, for adults, 2 Gm. dissolved in 200 c.c. of warm 2 per cent sodium bicarbonate solution may be administered following a cleansing alkaline enema every other night for a maximum of five doses, if necessary. Because of the large dosage employed, oral administration should be interrupted during this interval. Carbarsone is supplied in vials containing 2 Gm. and in pulvules (capsules) containing 0.25 Gm. The name is trademarked but the firm disclaims proprietary rights. Eli Lilly & Company, Indianapolis. (Jour. A. M. A., July 28, 1934, p. 259.)

THE VISUAL EXAMINATION OF THE URINE*

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EXAMINATION of the urine may yield information of the utmost value. Often unexplained fever or vague pain in the back is on a urologic basis. These matters are well known, but the value of visual examination of urine, macroscopic and microscopic, seems not to be fully appreciated. I believe it should be carried out in general practice, not only in urologic practice, on every patient.

When a patient comes to the office, whether infection of the urinary tract is suspected or not, the first laboratory procedure should be visual examination of the urine. It must be assured that a fresh specimen of uncontaminated urine is obtained. If the patient is a male, the glans penis and prepuce first should be washed with soap and water, and then, with the prepuce retracted, the glans should be cleansed further, with a sponge soaked in an antiseptic solution. Without contaminating these cleansed parts, the patient should then be instructed to pass at least 2 ounces, 60 c.c. of urine, into a first glass and the remainder into a second glass. These glasses should be clean but they do not have to be sterile. While the urine is being passed into the second glass, urination should be interrupted, and about 10 c.c. collected in a sterile test tube fitted with a sterile cotton plug. The mouth of the tube should be flamed before and after the urine is passed into it. This specimen may be sent to the laboratory for culture if further examination of the urine makes clear the necessity of this. For convenience, the first glass is marked G 1 and the second glass is marked G 2. The first glass is always placed to the left of the second one as a further check as to the identity of the two glasses, for, as will be seen later, the findings in each specimen are of great importance.

In a good light the two specimens are inspected. Whether the urine is clear, hazy, cloudy, bloody, or shreddy is noted. Clear urine emphatically does not in itself rule out the presence of microscopic pyuria or bacteriuria. According to many investigators, the first glass will contain the washings of the urethra and the second glass will contain the true washings from the bladder and whatever might seep through from the posterior urethra into the bladder. A sample from the second glass is centrifuged, and the sediment is recovered. A drop of it is placed on a clean glass slide, is covered by an ordinary thin cover-slip, and is examined under the high dry power of the microscope. The various crystalline elements, erythrocytes and leukocytes, spermatozoa, mucous shreds, and occasionally bacteria, are clearly visible if present. A count should be made of the erythrocytes and leukocytes per high power field. Occasionally urine may be grossly cloudy because of the presence of earthy phosphates, but this can be quickly determined by taking a small sample of the urine and adding to it a few cubic centimeters of acetic acid. If the cloudiness is due to the presence of these phosphate crystals it will rapidly disappear. It is important that this procedure be carried out on a separate sample, for the addition of acetic acid to the whole specimen will bring about hemolysis of the erythrocytes, if present, and mask the true picture of the urinary sediment.

As I have stated, the first glass contains the washings of the urethra, whereas the second glass contains the true vesical urine. Keyes has cautioned against two exceptions to this statement:

1. Insoluble substances, such as crystals, pus, and blood clots may settle to the floor of the bladder and be dislodged only at the end of urination.

2. The urethra may contribute to the second glass by the contraction of the bulb at the end of urination, which would express pus from the prostatic ducts, or blood from an inflamed vesical neck.

Probably the best and most complete summary of findings and indications as denoted by the two glass test is a table compiled by Pelouze. Because of the completeness of this table I should like to present it in full (Table I).

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TABLE I. SUMMARY OF THE TWO GLASS TEST (PELOUZE)

First glass	Second glass	Impression
Cloudy	Clear	(a) Acute anterior urethritis. (b) Acute anterior urethritis with mild or subsiding posterior involvement.
Hazy	Clear	(a) Mild acute or subacute anterior urethritis. (b) Mild acute or subacute anterior urethritis with mild posterior involvement.
Shreds	Clear	(a) Subsiding anterior urethritis. (b) Subsiding anteroposterior urethritis. (c) Chronic urethritis, generally as the result of deeper foci of infection in the prostate or other associated small channels.
Cloudy	Cloudy	(a) Acute anteroposterior urethritis. (b) Cystitis or upper tract suppuration.
Cloudy	Hazy	(a) Subacute or mild anteroposterior urethritis.
Hazy	Hazy	(a) Subacute or mild anteroposterior urethritis. (b) Bacteriuria.
Clear	Cloudy	(a) Seminal fluid. (b) Contents of pus pocket. (c) Sedimented mucus, or phosphates from a poorly emptying bladder. (d) Slight terminal bleeding.

From the female patient the specimen should be collected by means of a sterile catheter, after the labia, external meatus, and surrounding parts have been thoroughly cleansed with soap and water and then sponged with alcohol. In introducing the catheter, which may be a soft, flexible number 12 French instrument, or a glass catheter of the same size thoroughly lubricated with sterile jelly, the labia are held apart to prevent contamination of the catheter before its introduction into the urethra. About 10 c.c. of the catheterized urine should be collected in a sterile test tube for culture, if desired, and the remainder put in a clean glass. This latter specimen should then be examined macroscopically as was the second glass of the male patient's urine, and the same gross characteristics noted. Following this, a sample of the urine should be centrifuged and a drop of the sediment recovered. This is placed on a clean glass slide, covered by an ordinary thin cover-slip, and examined as has been explained.

The difference in the gross and microscopic appearance of voided and of catheterized urine from the female is often striking. In a voided specimen, the vaginal and cervical secretions are present, and these may and frequently do entirely obscure the true picture. At the time of menstruation the voided specimen contains gross blood and this is misleading. Unless the sedimentary findings on a voided specimen from a female are entirely negative, microscopic urinalysis is of no value whatever.

From here on examination of the second glass of urine from the male and of urine from the female are the same. Following careful analysis of the urinary sediment under the high, dry power of the microscope, the cover-slip is removed, and the remaining secretion evenly smeared over the entire slide. The slide is then dried and fixed by passing it rapidly through a flame a few times. Sometimes a more satisfactory slide can be made by decanting off the supernatant urine from the centrifuge tube, refilling the tube with water, and shaking in order to wash the sediment thoroughly, and finally centrifuging again. Of all the stains which have been suggested for urinary sediment, the gram stain is probably the most useful. This stain has been greatly modified by many writers, but a reliable modification of the original method of using the gram stain is probably the following one, in which four different solutions are used. These solutions are given in Table II and should be made up with distilled water to insure their stability.

TABLE II. SOLUTIONS FOR GRAM STAIN

1. 1 per cent methyl violet 6 B in water.
2. Iodine 2 gm., 10 c.c. normal sodium hydroxide and 90 c.c. water.
3. Acetone.
4. 0.1 per cent basic fuchsin in water.

Each of these solutions should be applied to the dried and fixed smear in the order named, and in between the application of each two solutions, the slide should be washed with water. It is necessary to leave each of these solutions on the slide only a few seconds to ensure a satisfactory stain. The slide containing the stained smear is then examined under the oil immersion lens. This examination roughly divides the organisms, if present, into four groups, which are: the rods which do or which do not retain the stain; and the coccal forms which do or which do not retain the stain. Those which retain the stain (gram positive) are colored a deep blue. Those which give up the stain on the addition of the acetone and then stain with the counter stain, basic fuchsin (gram negative) are colored a rather bright red. It is recognition of the presence of these organisms which is of prime importance. Often, during the remission between recurrent attacks of infection of the urinary tract, the urine will contain only an occasional pus cell and will be clear macroscopically. Nevertheless, careful examination of the stained smear will, in the majority of cases, reveal organisms.

For actual identification of the organisms, a complete bacteriologic study is necessary and in this cultural methods must be used. The most common invader of the bacillary group is Escherichia coli, and less frequently Aerobacter aerogenes, or organisms of the genus Proteus, genus Pseudomonas, genus Alcaligenes, genus Salmonella, and genus Shigella. Of the cocci, a green-producing streptococcus and the Streptococcus fæcalis are the commonest, and organisms of the genus Micrococcus, of the genus Staphylococcus and hemolytic streptococci are less often found.

The material presented here is certainly not new to the medical profession but if it was to be given the place in practice which it deserves it would be new. Examination of the stained smear is important from diagnostic, prognostic, and therapeutic points of view. It enables one to determine whether or not an infecting organism is present, and it also allows a rough grouping as to the type of organism. The information gained from this diagnostic procedure is of great importance in outlining the immediate course of treatment. Such microscopic studies are so simple that they can be made in a few minutes and they are best carried out by the examining physician himself. He should perform this examination in his own laboratory, for these findings are important not only from a diagnostic point of view but also in determining the daily progress of the patient. Particularly in urinary infections caused by any of the cocci, examination of the stained smear may be the only means of determining the presence of the offending organism; many cocci are exceptionally hard to culture.

This simple visual examination may forestall more strenuous attempts to arrive at the exact diagnosis and to rule out underlying pathology. If a physician rushes in with repeated catheterization, cystoscopy, and pyelography, the acute or subacute attack may be greatly prolonged. These last named procedures have the most important place of all and should always be carried out eventually if there is any reason to suspect a complicating lesion. This place, however, is after the acute condition has subsided and the infection is under control.

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HEMP MASSAGER NOT ACCEPTABLE

The Council on Physical Therapy reports that the Hemp Massager, manufactured by the Conley Company, Inc., Rochester, Minn., consists of two rubber balls mounted on spindles at right angles to each other. As this device is pulled along over the body, the rubber balls pinch the skin and by friction lift it and underlying superficial tissues above the contour of the body or limbs. The Council investigated this massager and declared that it did exactly what, in practicing good massage, a masseur tries to avoid; it pinches the superficial tissues instead of picking up and kneading deep tissues as well as the superficial. Even if the massager faithfully duplicated hand massage there are certain statements in the advertising for which critical evidence is not available. The Council objected to the claims made for the relief of headache, nervousness and constipation. In reality, these conditions might be caused by some impaired function other than that for which massage is justly indicated. The Council regards the advertising as objectionable, because satisfactory evidence is not in its possession to substantiate the efficacy of massage with this unit in the conditions mentioned. It has declared the Hemp Massager ineligible for inclusion in its list of accepted devices. (*Jour. A. M. A.*, February 10, 1934, p. 455.)

THE PATHOGENESIS AND TREATMENT OF OBESITY*

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THE human body is a machine that utilizes, transforms, and stores energy according to natural laws. Fat represents energy stored. Therefore obesity indicates that the equilibrium between the energy intake and the energy output (calories taken in in the form of food and the calories produced in the form of heat) is disturbed, the intake being greater than the output.

The problem in the study of the genesis of obesity resolves itself into the question as to what disturbed mechanism causes the excessive intake of food. This subject offers many difficulties, principally because the metabolic deviation from normal is so slight that our present methods are not sufficiently fine to detect the cause. Noorden has shown that an excess of 200 calories daily over a period of one year is capable of increasing the body weight fourteen pounds.

Most of the early work in obesity was directed toward the possibility that the obese person is able in some manner or other of expending energy in an economical way, that he reacts to various physiological stimuli with a lowered caloric output. However, studies of the basal metabolic rate, the specific dynamic action of food, and the reaction known as luxus consumption have shown that only an occasional case can be ascribed to such a cause. Wang, Strouse and Saunders[12] showed in six cases of obesity what they considered a failure to react in a normal manner to the ingestion of protein. Lauter,[6] on the other hand, believes that the reaction normally is variable and that the obese rarely show an absence of the rise in the metabolic rate. In order to ascribe the origin of obesity to such a cause he believes that a complete failure to react must be demonstrated.

The endocrine glands have long been held responsible for a large percentage of the cases of adiposity and undoubtedly hypofunction of the gonads, thyroid and pituitary and hyperfunction of the adrenal cortex do produce obesity, but it is quite certain that the number of cases resulting from such a cause is very small. The diagnosis of such an origin rests on the finding of other signs indicating an endocrine disturbance.

If only a relatively few cases of obesity can be explained by a decrease in energy output or by an endocrine abnormality, what explanation can be advanced as to the pathogenesis of the remaining large group estimated as being over 90 per cent. The direction of the present-day investigations has changed from a consideration of the total energy expenditure in obesity to the study of the fatty tissue itself, assuming that adipose tissue is a living active tissue subject to disturbances in growth and metabolism and like other cells affected by chromosomal or genetic influences.

This conception of constitutional obesity has both its champions and opponents. Bauer[1] and Von Bergman have been its chief supporters for many years. Recent investigations in man and animals have produced evidence that lends a more solid basis for such an etiology.

Constitutional obesity implies that there is in the chromosomal makeup factors that determine the rate of growth of fatty tissues, just as chromosomal factors determine the growth of long bones, the length of the nose and the color of the hair. It is assumed, and not without some evidence, that the fatty tissue in the obese possesses the inherent impulse to grow to a marked degree. Such an abnormally high growth-rate demands a greater energy intake just as a growing child requires more calories per square meter of body surface than does the adult. The demand for more energy (food) is evidenced by an increased appetite. The food taken in supplies more calories than that which is produced in the body and is stored with fat depots.

What evidence have we to support the conception of a constitutional origin for most of the cases of obesity? It is a common experience in taking histories of obese patients, to find that in a large number of instances one or more members of the family are also obese. That this is not due to a custom of living is shown by the fact that in the same family and under the same con-

*Presented before the Ramsey County Medical Society, February, 1934.

ditions there will be both lean and fat individuals. Danforth[2] bred a strain of white rats that were very obese, and showed that the obesity was transmitted as a Mendelian characteristic. Students of heredity have shown that when both parents possess unfavorable dominant characteristics the offspring of these parents may not be capable of surviving. This condition has been observed several times in offspring of very obese parents.

Von Bergman and his pupils, notably Kugelman,[5] have shown that there is a disturbance of the intermediary metabolism in these cases. The results of their investigations indicate that the fatty tissue of the constitutionally obese possesses to a marked degree the ability to take up carbohydrates from the blood stream and transform it into fat. They found the liver and the muscle to be relatively poor in glycogen, indicating that the storage of this substance was prevented by the rapid extraction of carbohydrate from the blood stream by fat cells.

That fat tissue possesses autochthonous growth characteristics is well shown in its transplantation reactions. When a section of skin with underlying fat from a fatty area is transplanted to a lean area the fat persists and in periods of overnutrition the fat is accumulated more rapidly in this transplanted area than in the surrounding lean region.

This type of obesity varies greatly, both in its degree and in its distribution. It may be present as small localized accumulations such as lipomas or it may be confined to areas of the body as around the hips or breast. More often it is a diffuse development of adipose tissue spread all over the body. The fat men and women of the circus side shows represent an extreme degree of this condition.

The idea that these cases must be linked with some endocrine disturbance has exerted a hypnotic influence over the medical profession. This is due primarily to general lack of information regarding endocrinology and to the magic and mystery that seems to surround this subject. There is no good evidence to indicate that in these obesity cases the endocrine secretions play any part whatever. Autopsy studies have failed to show either microscopically or macroscopically any changes in the ductless glands with the exception of the work of Kraus, who found an increase in the number of basophilic cells in the anterior pituitary.

Hormones act either as stimulators or inhibitors of developmental processes. The degree of growth is determined primarily by genetic influences. For example, castration in the young will produce gigantism only if the autochthonous impulse of the long bones to grow is present in a marked degree. If this impulse is not present the castrate will not develop unusually large proportions. The gonodal secretion acts to inhibit the growth of long bones but does not determine the ultimate length of the bones. Similarly the castrate may become obese, that is, fat will accumulate around the hips, above the pubis and in the breast region, a typical female distribution. The male gonads, then, inhibit the fat deposits in this region. However, if the genetic impulse of the fat to grow is absent, he will not become obese. Certain glandular disturbances at times lead to obesity and at other times the obesity is absent. It seems that in order for these people to become fat there must be present a constitutional predisposition to obesity.

Along with the lipophilic tendency in these people there is also present a hydrophilic tendency of the fatty tissue, which permits it to act as a sponge, capable of holding, and at times tenaciously, considerable amounts of water. The amount of retained fluid has been variously estimated as being 5 to 70 per cent. This edema is independent of any circulatory or renal disturbance and is a peculiarity of the tissue itself. Graefe has estimated that if the dry fat in the body weighs 30 kilograms, with a 5 per cent addition of fluid the moist fat would weigh 31.5 kg.; and with an addition of 70 per cent water, 51 kg. It is doubtful whether this extreme hydrophilic tendency is present in many cases. The sponge-like water absorption of the fatty tissue must always be kept in mind, especially when interpreting the results of therapy. Recht[10] and others have shown that the absorption time of fluid injected under the skin in fatty areas is greatly shortened. He also found that there was a marked difference in the absorption of fluid from fat and thin areas in the same person. Dell' Acqua[3] has demonstrated a definite retention of sodium chloride in the fatty tissues. Newbrough's[7, 8] experiments in undernutritional diets have shown that the failure to lose weight is due to water retention.

There is no characteristic distribution of the fat in the constitutional type of obesity and the diagnosis is made mainly upon the family his-

tory. The difficulty often encountered is in those individuals showing constitutional obesity and also other constitutional variations from normal such as bone growth and hair distribution. One frequently meets instances of obesity in the male with a female type of pubic hair growth and with no other signs of gonodal insufficiency. These people are not obese because of testicular insufficiency. In the female one meets marked obesity and amenorrhea. The amenorrhea often disappears after reduction in the excess fat takes place. The menstrual failure is not the cause of obesity but a concomitant manifestation of ovarian insufficiency. If the ovarian insufficiency is relieved by other measures than the diet there is no change in the obese state. All these things merely express a well known fact that chromosomal variations are often multiple, just as congenital heart disease is frequently accompanied by some abnormality of the fingers and toes.

The claim has been made that a normal individual possesses a regulatory mechanism that prevents him from developing obesity and that this mechanism is under the control of an appetite center in the brain. In support of this have been offered the cases of obesity developing after lesions in the forebrain, and especially in the region of the third ventricle, and the tuber cinereum. However, one frequently encounters obese individuals having no hereditary history, no internal glandular disturbances, and no evidence of a brain lesion. These cases can best be explained on the basis of changes in the habits of eating or living.

Habits of eating play a large rôle both in obesity cases and under-nutrition. This fact has been repeatedly demonstrated in those undergoing obesity cures and in attempting to gain weight. One frequently observes in athletes a tendency to obesity following the termination of active participation in athletics. The best explanation of this change is that during the active period habits of eating were formed, and later with a diminished energy output the intake remained the same. When one considers that it requires only a small daily caloric intake in excess of that required to cause an appreciable gain in weight in one year, it is not surprising that slight changes in habits can lead to obesity. If it requires only 200 calories a day in excess to produce moderate obesity, this can result from a daily extra slice of bread and butter, a dish of ice cream, or a piece of pie.

Changes in activity that reduce the caloric expenditure 200 to 300 calories a day may lead to excessive fat deposits if the diet remains the same. This can easily occur when one moves close to a car line or when one no longer has to climb steps, or when light exercise is abandoned. In other words, habits of eating are formed under certain conditions which maintain a proper balance between the energy intake and the energy output. When these conditions are changed without a change in diet the balance is disturbed.

Treatment

Obesity often results in serious consequences. Its effect on the circulatory system by increasing the size of the circulatory bed and through its interference with the movements of the diaphragm is well known. That it is injurious to the respiratory mechanism and the digestive tract has repeatedly been pointed out. The seriousness of the conditions should be emphasized to those possessing this constitutional defect. They should early be taught habits of eating and exercise, for as Graefe has stated: "It is much easier not to get fat than it is to lose excessive fat."

In spite of the constitutional origin of most cases of obesity, the treatment is not without effect, but because of the nature of this origin it must be carried out throughout the life of the patient. Any treatment designed to cause a sudden loss of weight without regard to the future is worthless, because with the cessation of the treatment the fat again piles up. For that reason extremely low caloric diets of 400 to 500 calories are only of scientific interest except in rare instances.

As therapeutic measures we have at our disposal diet and exercise, organotherapy, diuretics, and a few other non-endocrine substances.

Of these measures by far the most important is diet. No other treatment in itself is of sufficient therapeutic value. No pill, salt, or injection will produce a lasting loss of weight. Lack of space will permit only a résumé of the essentials of such a diet.

The diet should be of such a nature as to be deficient in calories so that it will permit a reduction in weight but at the same time it must have a composition that will provide variety and allow the patient to carry on his daily activities. A very low caloric diet will produce a quick loss of weight but the patient will rarely follow it

long enough to have it do much good. For most cases a loss of two pounds a week is sufficient. Such a reduction can usually be accomplished by a diet of 1,000 to 1,200 calories. Diets containing 400 to 500 calories, such as recommended by Evans and Strang[11] are not to be recommended except in unusual cases. The composition of the diet can be varied greatly as long as the calories are kept low. The protein content should be of good quality (meat, eggs, etc.), to an amount of about 100 grams. A high protein diet is of value because of its specific dynamic action which results in a loss of calories. The fats especially should be kept low as its high caloric value robs the diet of bulk which is necessary to prevent constipation. It can rarely be reduced below 40 grams as a diet very low in fat is not palatable. The remainder of the calories are to be made up of carbohydrates.

Endocrine Therapy

The layman and even many physicians feel that if only the right combination of endocrine substances could be obtained, their difficulties would vanish. As a matter of fact the only endocrine preparation that is of value is that of thyroid. Theoretically pituitrin should be effective, as Raab[9] has shown a definite mobilization of fat from the fat depots toward the liver after an injection. When pituitrin was injected into the ventricles it was more effective than when it was injected intravenously. From a practical standpoint this observation is of little value. Anterior pituitary lobe preparations or whole gland substances are without value. Ovarian hormones are also valueless in the treatment of obesity in the female.

Thyroid substances are specific in the treatment of obesity accompanying hypothyroidism and are often of great value in obesity from other causes. Its effectiveness lies in its ability to stimulate the metabolic rate and in its diuretic action. Its dangers should be recognized, but when it is indicated the dosage should be large enough to secure an effect. Very small doses, such as have been advised by some, appear to be worthless.

When is thyroid to be used? In general one may say that as long as satisfactory loss of weight is secured by diet and exercise no medication is indicated. Some advise its use coincident with diet. It is of special value during the period of the cure when the weight loss has remained stationary. One often finds that the patient loses weight satisfactorily on diet for three weeks to a month and then reaches a period when no further loss takes place. This is due to a retention of fluid and probably also to a reduction of the metabolic rate following the low diet. This is a good time to use thyroid, giving 10 grains of the desiccated gland a day for four or five days.

In an adult there is little use in giving less than 6 grains a day. At the end of a week or ten days, if no effect is noticed the dosage can be raised. If signs of thyroid intoxication are present the treatment can be stopped or the dosage reduced. Individuals vary greatly in their reaction to this medication. Unpleasant symptoms, such as tremor, sweating, tachycardia, and weakness may occur, but will disappear on withdrawal of the drug.

Treatment with Non-Endocrine Preparations

If the conception of the constitutional origin of obesity is true, then the desirable remedy would be one that would reduce the anabolic activity of the fatty cells. To date no such remedy has been discovered. Next to be desired is something that will cause a reduction of appetite. Of the several preparations that have been advanced, none has been particularly successful.

Recently dinitrophenal has been shown to have a very definite action in increasing tissue oxidation. The early reports were very encouraging, leading us to believe that its use was without danger. Since that time a fairly large literature has grown around the subject, pointing out the fact that it is capable of producing serious reactions and even death. Along with the more severe untoward effects there also occur numerous unfavorable reactions which, although not serious, often make the patient uncomfortable.

In a group of fourteen patients followed by the author, two developed urticaria. One of these cases presented giant eruptions covering a large part of the body, with marked swelling of the face, hands and feet. This patient was very uncomfortable for five days. The other case of urticaria was considerably milder and lasted three days. Another case developed a dryness of the skin over the hands and fingers, with a subsequent exfoliation. A fourth case lost the sense of taste so completely that he could take a tablespoon of salt in his mouth without being able to recognize it. Several of the other patients com-

plained of fatigue of varying degree, and one found the sensation of heat very uncomfortable.

All of these patients received the same dose—gr. 1½ a day for one week, gr. 3 during the second week, and gr. 4½ at the beginning of the third week. No case was given more than 4½ gr. a day. Basal metabolic rate determinations were made about once a week for four to five weeks. At the end of the third week the basal rate varied from plus 25 per cent to plus 40 per cent and as far as could be determined from the metabolic rate, the drug did not produce a cumulative effect.

Although none of the above untoward reactions were serious, they should be a warning against the promiscuous prescribing of this preparation. A dose of four and a half grains a day with a suitable diet (1,000 to 1,200 cal.) was sufficient to cause an average loss of weight of two pounds a week in all the patients. A larger dose seems to be unnecessary.

The only other non-endocrine products that are of real value are the diuretics. Many of the so-called failures of obesity cures are due not to the failure to lose fat but to the accumulation of fluid in the fatty tissues. This water is often difficult to eliminate and requires diuretics to force it out. The preparations that are effective in cardiac edema are also valuable in this condition. Diuretics such as theophyllin, diuretin, and aminophyllin are rarely effective. Ammonium nitrate and salyrgan can be used to the greatest of advantage.

There is no single plan that one can recommend as to the dosage and frequency with which these preparations should be used. When the ordinary dietetic measures fail, ammonium nitrate can be given in doses of two grams three times a day for a few days. If no diuresis results 1 c.c. of salyrgan can be given intravenously. On account of the obesity it is often difficult to locate a vein and if the injection occurs outside of the vein a slough may result. Intramuscular injections are also often accompanied by sloughs that heal with difficulty. Often one injection is sufficient; at times two to three are necessary at four to five day intervals. Obviously cases complicated with kidney and bowel disturbances are not suitable for this treatment.

Foreign protein, especially milk injections, have been used with the claim that it is an effective treatment. When used alone it is of no value, but in combination with thyroid it at times has some effect. The results are so uncertain that its use is not recommended.

Last, but not least, in our cure is exercise. The obesity makes physical activity a considerable effort and for that reason a vicious circle is instituted. A strenous effort must be made to increase the caloric output through exertion. The disinclination to exercise often prompts these people to seek aid from the masseur, or by recourse to rolling machines. Such measures are of very small value.

In starting our cure we must realize and must impress upon the patient the necessity of forming new habits of eating and living and that all other measures are merely aids. There is no royal road to thinness for these people.

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CASE REPORT

SELF-INFLICTED LESIONS OF THE SKIN AND MUCOUS MEMBRANE*

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A good deal of confusion still exists in regard to the recognition and interpretation of self-inflicted lesions of the skin. The cause of such lesions may be overlooked for a long time by the first physician in attendance because he is biased through acquaintance with the patient or relatives, or is so close to the situation as to be unable to view it in proper perspective. Aside from malingerers, these patients are usually young women, with a background of hysteria, who seek to attain some definite end by their misconduct: either sympathy or escape from unpleasant duties or environment. Even though the true state of affairs be surmised, unless the motive is analyzed and the situation readjusted, there is little prospect of cure.

From a dermatologic standpoint these cases may be recognized by the unusual sequence of events, the bizarre character and distribution of the cutaneous lesions themselves, and the failure of the ensemble to conform to the characteristics of the infectious granulomas or the noninflammatory cutaneous disorders. A case is being presented in detail here because it well illustrates several points of interest in the analysis and solution of unusual problems of this sort, and also because it presents the condition, which we believe to be rare in such cases, of involvement of the mucous membranes.

Report of Case

An unmarried woman, aged forty-eight years, registered at the clinic December 26, 1933, complaining of ulcers of the throat, abdomen, and legs, and of numbness and tingling of the extremities. She also had had some recent abdominal distress, nausea, and occasional diarrhea. The family history and past history were essentially negative, save that two years before both parents had died.

In July, 1932, she had noticed numbness and tingling of the fingers and hands, and then of the feet. This had persisted, and gradually had increased, so that she had had difficulty in carrying out her ordinary household duties. In November of the same year she had noticed an ulcer on one foot and then on the other; later, others had appeared on the hips and elbows. These ulcers had healed slowly over a period of weeks to months, and new lesions had appeared from time to time. The ulcers which were present on the abdomen and ankles on admission first had appeared in August, 1933. In March, 1933, during an epidemic of sore throat in the vicinity, the patient's throat had become inflamed, and the ulceration present had persisted practically unchanged. Various diagnoses, made in the past, had included lead poisoning, possible syphilis, tuberculosis, and Vincent's angina, and treatment had included intravenous injection of neoarsphenamine, sodium thiosulphate and gold sodium thiosulphate. Also, numerous chemicals had been applied to the ulcers.

The patient was of the thin, asthenic type and weighed only 92 pounds (41.7 kg.). A year and a half previously she had weighed 135 pounds (61.2 kg.). The blood pressure was 100 mm. of mercury systolic and 40 diastolic. The heart and lungs were essentially normal. There were no abdominal masses or tenderness. Examination of the pelvis also revealed nothing abnormal. There were eight ulcers on the right foot and ankle, four on the left (Fig. 1), and two on the abdomen (Fig. 2). They were round to oval, rather sharply circumscribed, and varied in diameter from about 1.5 cm. to, perhaps, 12 cm., and were covered with a firmly adherent, heavy, dark, sphacelus. All the lesions were markedly destructive; those on the ankles were abruptly demarcated from a background of normal skin, without infiltration; those on the abdomen were larger, with excoriations and smudges of erythema at the borders, extending peripherally, in irregular, finger-like processes. On the extensor surface of the right elbow there was a healed scar, superficial and of irregular outline. There were no vesicles, pustules, or other elementary manifestations. In the mouth there was extensive ulceration of the tonsillar fauces (Fig. 3). The ulcers were covered with a thick, gray membrane, and healing evidently was occurring underneath, but the tongue or buccal mucous membrane was not involved. Neurologic examination revealed peripheral anesthesia of the glove and stocking type, so common in hysteria, but there was also some muscular weakness and tenderness, particularly in the muscles of the calves, which was suggestive of peripheral neuritis. General physical examination otherwise gave essentially negative results. Routine urinalysis, and flocculation tests on the blood gave negative results. Mild hypochromasia was present, without basophilic stippling; the morphology of the blood cells and the differential count were otherwise essentially normal. Gastric acidity was normal. Roentgenologic studies of the thorax, stomach, colon and kidneys all gave essentially negative results. A culture of the throat was negative for Monilia. Because of the diarrhea, several examinations of the stool were made, but parasites or ova could not be demonstrated. Proctoscopy disclosed ulcerative proctitis of the anterior rectal wall (Fig. 4); the ulcerated portion had a gray base and a sharply defined, bleeding margin. Near the anus and in the median line there was a small slough. Analysis of the urine for metals disclosed the presence of arsenic, 1.0 mg. per 100 c.c., and of lead, 0.08 mg. in 800 c.c.

Although there were a number of possibilities, from a dermatologic standpoint, the cutaneous lesions were most suggestive of factitious dermatosis. On continued observation, the lesions of the throat and rectum seemed so unusual and bizarre that they also could be suspected of being factitious.

With these data in hand, we reviewed the patient's reaction to the severity of her illness. During the course of her examination she was at times indifferent; but still her readiness to have frequent inspections made of the ulcers of the skin and throat were so marked that at times it bordered on exhibitionism. In fact, she had encouraged her brother to examine daily, since the onset, the progress of the ulceration of her

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throat. From time to time she enjoyed recounting the apparent diagnostic difficulties of her problem.

However, in place of confronting the patient with the charge that her condition was self-induced, we discussed the situation with her relatives, who, because of her previous good moral character and steady disposition, found it difficult to reconcile our views with theirs. Accordingly, in order to find a motive, to discover the method of production of the lesions, and to eliminate the possibility of overlooking some insidious organic disease, the patient was placed in the hospital.

Fig. 1. Ulcers on the ankles.

Fig. 2. Ulcers on the abdomen.

Special attention was paid to the personal effects of the patient in a search for clues. Under occlusive dressings, the ulcerations of the skin improved, and new lesions did not develop. Without special attention, the ulceration of the throat proceeded to complete healing within ten days, and periodic reëxamination of the region of rectal slough revealed similar steady improvement. During the course of our observation we repeatedly made it plain to the patient that we were aware of the etiology of the lesion, but we did not directly say that they were self-inflicted. We felt that more could be accomplished by appealing to her sympathy and intelligence than by directly charging her with what we believed, and thus possibly arousing her antagonism. Our supposition in this regard proved correct, and within ten days she became sufficiently remorseful to make a confession.

Lye, used for cleaning, had furnished an easily accessible agent for the production of the lesions. Those of the skin had been produced by rubbing with a cloth soaked in lye, and those of the throat by applying to the mucous membrane a lye-soaked cotton swab wrapped around the end of a pencil. The rectal ulceration had been brought on by thrusting into the rectum an enema tip which contained lye. This she had done, in lodgings, over the same period that she was making almost daily office calls at the clinic.

The particularly interesting part of the story, however, rested on the motive of partial suicide. Both parents of the patient had died, as has been said. The peripheral neuritis which had occurred in July, 1932, apparently had been caused by exposure to arsenic which had been used in spraying the orchard and chicken yard. The patient had inferred that she would become paralyzed. This trouble, following the death of her parents, caused her to contemplate the idea of a long life of invalidism and economic dependence, and suicide seemed to offer an outlet to her trouble. Because she was of a religious nature, and because she did not want to dishonor the family name, the idea of suicide was abhorrent to her. Then an accident had suggested a possible solution. One morning, while the patient was cleaning the kitchen stove with lye, she inadvertently had dropped some of the chemical inside her slipper. Sensation was lacking in the feet, as a result of peripheral neuritis or hysteria, and an ulcer had developed before she was aware of the presence of the irritant. The idea then suggested itself to her of producing ulcers by applying lye to the skin, in the hope that a fatal infection might ensue. Thus, she might achieve suicide without it being known. Later she became fearful that amputation of an extremity might be necessary, and thus her trouble was markedly increased, without the end which she so desired being attained. At this time, during an epidemic of sore throat in the vicinity, she conceived the idea of producing septic sore throat through the use of lye. The motive for the production of the rectal ulcerations during the time when she making office calls at the clinic, apparently rested on a desire to increase the diagnostic difficulties of the case at a time when she felt that it was near solution.

Fortunately the peripheral anesthesia improved somewhat during the later part of her stay in hospital. This, coupled with the optimism and freedom of mind which followed her confession, together with the relief experienced with improvement of the ulcers, enabled her to leave for home very much better, and with a good possibility of attaining permanent cure.

Comment

Cases of this type have been described by Stokes and Garner, Ormsby, and others, and the important points in their solution ably emphasized. However, several points of importance in the consideration of this unusual problem may be worth emphasis.

There was, in the case reported, an hysterical background, a direct motive furnished by an accidentally-incurred organic disease. On the latter motive hinged the production of the entire factitious syndrome.

It was apparent that the various ulcers of the skin and mucous membranes were confined to sites that were most easily accessible. The ulcers themselves were markedly destructive, and at the same, of a uniform stage of development. Furthermore, the tough black sphacelus, which adhered to the surface of each lesion, was typical of the crust which forms when concentrated acids, phenol, lye, or other escharotics come in contact with the skin. This medley of unnatural

objective features failed to conform to the pattern of any well recognized pathologic ulceration of the skin or mucous surfaces. Therefore, our suspicion was aroused that the entire process was factitious.

Fig. 3. Ulceration of tonsillar fauces.

Fig. 4. Ulcerative proctitis.

In cases of this sort, although the physician may have a well-founded suspicion as to the true state of affairs, unless the motive and method of production of the lesions are ascertained, and a confession obtained, the diagnosis will prove futile and unproductive of cure. Observation in hospital, if carried out under strict surveillance, confirms suspicion, and prompt improvement of the lesions, with failure of new ones to appear, furnishes a firm foundation for the final step of obtaining a confession. In dealing with stupid or dull patients, the sudden, direct confrontation, the "cathartic method" as it is called by Stokes, may be used, but it is likely to prove ineffective in dealing with intelligent individuals and to arouse antagonism which will seriously delay solution of the problem.

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IRONIZED YEAST

The Bureau of Investigation of the American Medical Association reports that the public has been made what the advertising men would call "yeast-conscious" by the extensive and intensive advertising of the Fleischmann product. The facts are, of course, that as a medicine yeast has no important place except as a means of furnishing Vitamin B, which ordinarily should be and would better be obtained from one's food. But the public is not aware of these facts, so that it is not surprising that, by plausible advertising a "patent medicine" called Ironized Yeast has been built up into one of the best sellers in the nostrum field. Ironized Yeast advertising is typical of the times. In the newspaper advertising of Ironized Yeast, skinny versus well-developed men and angular versus well-curved women are brought into juxtaposition with the object of showing how necessary a rounded figure—and therefore Ironized Yeast—is to achieve economic or social success or marital happiness. Ironized Yeast comes in a bottle of fifty tablets costing $1—that is, the tablets cost 2 cents apiece. The public is urged to take from eight to twelve tablets a day for from two to three months; thus, at twelve tablets daily, the cost for three months would be $21.60. According to the Ironized Yeast Advertising, the product is "made from specially cultured *brewers' ale yeast* imported from Europe"—claimed in earlier advertising to be from Bass' Ale brewery—which, it is alleged, "by a new process is concentrated 7 times." Further, this yeast "is then *ironized* with 3 kinds of strengthening iron." From the various analyses which have been made of Ironized Yeast, including that of the A. M. A. Chemical Laboratory, it appears that Ironized Yeast is essentially yeast with small amounts of iron and phenolphthalein. The concern which sells it has attempted to obtain testimonials from physicians by offering them a bottle of perfume, and testimonials from the general public by the promise of a picture. The Ironized Yeast advertising carries the impression that by taking the preparation undernourished and angular women can in a few weeks' time (usually three) be transformed into examples of rounded buxomness, while skinny men, by the same emthod, can undergo a similar transformation. (*Jour A. M. A.*, May 19, 1934, p. 1697.)

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Poliomyelitis Vaccination

Each year or two an epidemic of poliomyelitis appears in some locality. Two years ago Philadelphia suffered, and the epidemic this year in California has been most tragic. The disabling effects of the disease, attacking mostly small children, make every epidemic serious.

So far efforts at active immunization have not been outstanding. The need for some reliable method of vaccination which can be used on a large scale in the face of a threatened widespread epidemic is obvious.

Kolmer's work offers a reasonable hope of success. Working at Temple University in Philadelphia he followed the lead reported in 1927 by McKinley and Larson whereby these Minnesota men were able to immunize monkeys by injections of emulsified cords from other monkeys suffering from the disease, which were treated with sodium ricinoleate. He has confirmed the production of immunity in monkeys and, what is more, demonstrated the production of an antivirus in himself and his coworker by the same method. Having convinced himself of the harmlessness of this devitalized virus, Kolmer is now vaccinating a group of children who are known to be lacking in the antivirus in their blood, in an attempt to prove that small doses of his preparation will consistently immunize them against the disease.

As Kolmer states, he is rather reluctant to recommend a virus which is not "dead," but only attenuated by the sodium ricinoleate, and most physicians will react similarly. Doubtless considerably more experimental work will be necessary and criteria for the preparation of the vaccine established before widespread adoption will be possible.

The development of a simple and effective technic for diphtheria immunization required many years. Tragedy played a part, but the final outcome was successful. Undoubtedly it will require considerable more investigation and trial before the same result will be accomplished in the case of poliomyelitis. There is reason to believe, however, that the first steps reported will lead to the final prevention of this much dreaded disease.

Healing In The Tuberculous Lung

In the treatment and post-sanatorium care of tuberculous persons, among the many important questions which must be faced by the physician is one that stands out clearly, involving, as it does, prognosis. This is the factor of healing. Obviously an accurate appraisal of the healing process in pulmonary tuberculosis is desirable from both the doctor's and the patient's viewpoint. At the recent meeting of the Minnesota Trudeau Medical Society in Saint Paul, Dr. J. Burns Amberson of New York City gave a most satisfactory résumé of the subject from the clinical, x-ray and laboratory points of view.

His illustrative material covering a period of twenty years brought out several pertinent observations. Calcified areas, for instance, so commonly held to be expressive of healed tuberculosis, more frequently than not harbors living

virulent tubercle bacilli and represent a change indicative of local tissue degeneration rather than a reparative process. The exudative lesions which clear so miraculously on the x-ray film do not hold forth such an excellent outlook as the change might suggest, due probably to the fact that these patients receive treatment of inadequate duration because of the rapid clearing which leaves behind small, poorily encapsulated caseous foci. The type of lesion which leaves on the x-ray film a strand-like infiltration, interpreted as fibrosis, offers a better prognosis and this type frequently in time becomes sterile and therefore incapable of recurrence. This type, however, may lead to localized emphysema, bronchiolectasis or bronchiectasis with their attendant manifestations.

Physical signs are not dependable in estimating the healing process. Medlars blood count and the erythrocyte sedimentation rate are helpful, as are examinations of sputum once positive but becoming negative not only to microscopic examination but to guinea pig inoculation.

Dr. Amberson also emphatically stressed the element of time in the treatment of pulmonary tuberculosis in its relation to the healing process. Short cures are most apt to end in recurrences; sufficient time, one or two to five years, depending on the type of lesion and anatomical extent, is imperative.

These observations, coming as they do from a clinician of wide experience, international reputation and above all from one who exhibits clinical sanity in a rare degree, merits close scrutiny and intelligent reaction.

E. K. G.

Accident Insurance

The moral hazard involved in health insurance has largely resulted in its not being profitable business. Not so with accident insurance. There is less opportunity for dissembling in case of accidents, and many accident policies offering various coverage are available.

We venture the opinion that most physicians, like most purchasers of insurance, accept statements of insurance agents and do not carefully read their policies. In this belief attention is called to the subject. We must admit, however, that an analysis of most insurance contracts requires the services of a lawyer conversant with legal interpretation of such contracts.

The variation in the cost of accident insurance is explained by the variation in the restrictions contained in the policy. The limitations of a policy are usually clearly defined. The wording of the restrictions of the policy determines the value of the contract, for after all, upon the legal interpretation of the policy as a contract depends its value to the holder. Many policies are apparently examples of sharp practice and misrepresentation, and purchasers too often pay for something they do not get.

The following editorial which appeared in the *Journal of the Michigan State Dental Society* for December, 1933, and was reproduced in the *Minneapolis District Dental Journal* for March, 1934, is so much to the point that it is being reproduced here. After all, publicity offers the only means of eliminating these tricky policies.

DO YOU UNDERSTAND THE PROTECTION YOU HAVE PURCHASED IN YOUR HEALTH AND ACCIDENT INSURANCE

The timely editorial published last month, and the request of Dr. Rickert to elucidate on this subject, touches a problem in which I have been interested for some time. Frequently complaints are heard against the insurance companies and they are accused of much misrepresentation. Many of these complaints are justified, as the insurance salesman either does not understand his own policy, or deliberately misrepresents it. However, it is high time for the professional man to understand these matters and cease to be easy prey to a smooth sales talk.

How many of us have hastily read our policies and impatiently assumed that all the supposed persiflage contained therein was standard form, and meant nothing to us? As a matter of fact, the actual intent of each word, and even the position of a comma, may change a Supreme Court decision. We are willing to spend between seventy-five to one hundred and fifty dollars per year to enjoy a supposed security, which under many conditions does not exist. If we were to analyze the exact wording of the policy, the discovery that we are paying for a great deal less than we think we have purchased, will soon be apparent.

Many smaller claims are paid even up to one hundred dollars, for which according to the wording of the policy the company is not actually liable. These are paid to maintain good will, and in my opinion to prevent a general cancellation by policyholders. If the sheep can be kept docile they can always be shorn when the big claims are presented.

To clarify and illustrate the situation let us study the most important part of any policy, namely: the "Insuring Clause," and confine ourselves to accident policies. Now let us group all the policies into two classes. First the large majority which use the expression "bodily injury resulting from *Accidental Means*," and second, the very small minority which use terms equivalent to *"Accidental Bodily Injury"* or "bodily injury from an *Accidental Event*."

Let us clearly understand that a bodily injury may result from either *"Intentional Means"* or *"Accidental Means."* The means in either case produces an injury.

If you lift a heavy desk, or voluntarily perform some act that results in an accidental injury, you have been injured by Intentional means, and this is not covered by the policy. A police officer mistaking you for a fugitive may shoot and kill you. This is an intentional act and the indemnity will not be paid. The use of the words "accidental means" has won many Supreme Court decisions for the insurance companies, and obviated the payment of large claims to policy holders who did not analyze their policies.

In an examination of the insuring clause of one hundred and eighty-five policies I have found twenty-six to use the unmodified expression "Accidental Means." Fifty-eight more add further limitations by the additional use of the words "Solely and Directly by Accidental Means." Let us assume that your death was caused by accidental means, but a contributing cause intervened and became responsible in itself for the death. While this secondary cause resulted from the accident, nevertheless, you have no insurance, as the death or disability was not caused Solely and Directly by accidental means.

Thirty-five additional policies still make this more emphatic by adding to the above the words "Independently of All Other Causes."

Thirty-nine other policies use the expression *"External, Violent* and Accidental means" with and without the additions just above enumerated. Let us consider the effect of the words *External and Violent.* Suppose you are struck a blow on the chest and develop pneumonia. This is internal. Perhaps you may sneeze and unexpectedly produce an injury to your back or be injured with an enema, etc. Now the term *"Violent"* means just that. *Great* physical force must be present, so if you cut or prick your finger, bruise your hand, trip over the cat and wrench your knee joint, the element of "Violence" is not present.

In fairness to the insurance companies, we must observe that the premium for policies which give us a very limited insurance, is considerably less than those written for the purpose of giving us coverage. However, many expensive policies contain these limitations, and it behooves us to understand what we are getting for our money.

Out of the one hundred and eighty-five, only twenty-seven had an acceptable Insurance Clause. Most of these insured for "Accidental bodily injury," two for "Personal injury effected by a purely Accidental Event," three for "Against *effects resulting* from bodily injury," and three more which were not so good "External, Violent, and an accidental event."

The next important factor is the "Time Limit Clause." This clause or the Total Disability Clause will specify whether the disability must result from the date of the accident, or may begin within a specific number of days after the accident. It also indicates the period after which Specific Indemnities, or the Principal Sum, will not be paid. In this connection it is important to realize that many accidents do not produce a disability immediately. Notwithstanding a special Septic Infection clause, if the disability must qualify on the date of the accident, then this special clause would be of small help.

Does your policy cover Infections including Hydrophobia, and if it excludes Internal injuries and does not specifically enumerate—Sunstroke, Freezing by involuntary exposure, Involuntary Asphyxiation, Ptomaine or other accidental poisoning, you have no coverage on these types of accidents.

The John W. Bell Lectureship

In paying a tribute to the late Dr. John W. Bell, a dearly beloved member of our profession, by establishing a Tuberculosis Lectureship in his name in the Hennepin County Medical Society, the Hennepin County Tuberculosis Association has found a most commendable way of honoring a great man, and, at the same time, of serving the medical profession of the state.

Dr. Bell's leadership, his wisdom, and his human qualities are a tradition among the thousands of practicing physicians who were his students and colleagues. No eulogy of him is necessary here. In founding an annual Tuberculosis Lectureship in his memory, the Hennepin County Tuberculosis Association is commemorating Dr. Bell in a manner which would have given him much pleasure, for this lectureship will bring to local physicians each year the latest scientific advances in combating tuberculosis.

Dr. Gerald B. Webb, who will deliver the initial lecture, is widely recognized as an outstanding leader in the field of tuberculosis.

The establishment of this lectureship is, we believe, a step forward, marking, as it does, a closer relationship between the Tuberculosis Association and the medical profession.

N. O. Pearce.

MEDICAL BROADCAST FOR THE MONTH

The Minnesota State Medical Association Morning Health Service

The Minnesota State Medical Association broadcasts weekly at 10:45 o'clock every Tuesday morning over Station WCCO, Minneapolis and Saint Paul (810 kilocycles or 370.2 meters).

Speaker: William A. O'Brien, M.D., Associate Professor of Pathology and Preventive Medicine, Medical School, University of Minnesota.

The program for the month of November will be as follows:

November 6—Diabetes in Minnesota.
November 13—Blood Transfusions.
November 20—Progress in Public Health.
November 27—Warts and Moles.

FELSOL

According to a brochure entitled "Contribution to the Therapy of Bronchial Asthma," by Dr. M. Kaercher, the composition of Felsol is now given as: Metozin 0.9 (Phenazone 0.25, Anilipyrine 0.4, Iodpyrin 0.25), Caffeine 0.1, digitalis and strophanthus glucosides 0.0015, and the alkaloid lobelia inflata 0.005 Gm. Tests made some time ago in the A. M. A. Chemical Laboratory indicated that the product contained an acetanilid derivative in addition to other products. The substance may be looked on as a shotgun type of mixture promoted in typical "patent medicine" style. (*Jour A. M. A.*, February 24, 1934, p. 640.)

MEDICAL ECONOMICS

Edited by the Committee on Medical Economics
of the
Minnesota State Medical Association

B. J. Branton, M. D. W. F. Braasch, M. D., Chairman J. C. Michael, M. D.

Shall We Be Lay-Dominated?

The following excerpts from a talk given recently before the Chicago Medical Society by Dr. Francis Ashley Faught of Philadelphia, chairman of the Philadelphia County Medical Society's Commission on Medical Economics, are equally pertinent in Pennsylvania, Illinois or Minnesota. Read them!

"If the physician is to hold his place in organized society, there must be a better planned unity, agreement and continuity of thought among doctors. Economic readjustments are in the making, and we must develop definite plans, because we have a definite responsibility in shaping this growth, and controlling these changes, particularly as they touch upon our sphere of activity. . . ."

> Dr. Frederic E. Elliott, Chairman of the Committee on Medical Economics of the Medical Society of the State of New York, said: "If the physician will not become an economist in his own domain, then he seems destined to yield his knowledge and skill to be the object of commerce and communal experiment."

"Our aim should be to discover a way to assure that the private practitioner shall continue to give a good quality of sickness service to all classes, including those unable to pay, and at the same time to preserve to himself, and to the medical profession, the practice of medicine. . . ."

Look for Leaders

"Efficient leadership in medicine has never been so greatly in demand as at the present time. Every organized group throughout the country should seek diligently to discover efficient leaders, and, when they are found, to offer them every encouragement and support. There was never a time when medical organization was more important than today. Active and efficient commitees on medical economics must be organized in every county. There is a job for every physician everywhere, and the work involves not only intensive study in order to discover existing evils, and to establish basic principles, for their restriction and curtailment, but also to constantly watch for those insidious forces that are even now trying to gain control of the practice of medicine, largely through some sort of manipulation of medical service, not for public benefit, or to aid the physician, but for personal profit. It re-

A Letter From The Minnesota State Medical Association To The President Of The United States

October 24, 1934

The President,
Washington, D. C.

Sir:

We note in the *New York Times* of Saturday, October 13, a list of committee appointments to assist in reports upon special problems that are to be dealt with by your Committee on Economic Security.

One of these committees is to report on the problem of sickness and the distribution of medical care.

The Council of the Minnesota State Medical Association has requested me, as secretary, to write to you and respectfully to suggest that, in the handling of this matter, the organized medical profession of the United States be given full opportunity to express its viewpoint with respect to sickness insurance to this committee.

The American Medical Association has, for the past three years, been making an intensive study of the operation of sickness insurance in foreign countries. It has accumulated a great deal of information which we believe should be presented to this committee in the hope that a sane and practical program can be developed.

Certainly the point of view of the average general practitioner, who has always provided medical service for the very group that is to be considered by this committee, should be of value.

We, therefore, respectfully urge that the Bureau of Economics of the American Medical Association, which represents the practicing medical profession of the country, be given an opportunity to present its views to the committee and to you before any definite recommendations are made to Congress.

Respectfully submitted,
E. A. MEYERDING, M.D.
Executive Secretary.

mains for the medical profession to determine whether it shall be a lay-dominated, politically controlled and paid organization, or whether it shall preserve medicine as a profession to physicians. . . ."

"It will require intelligent coöperation on a broad scale, in order to assure the public of adequate medical care, and at the same time to maintain those basic principles necessary to assure the continuation of the personal relationship between the patient and his private physician. This is the foundation stone of medical practice, and it must not be dislodged; to preserve it, we must develop coöperative medical endeavors of such a type that initiative will not be destroyed, or compensation unfairly diverted. . . ."

Not a Material Commodity

"In all discussions of medical economics, it is important to bear in mind that one of the most, if not *the* most distinctive characteristic of our service is that we do not distribute a material commodity, like food or clothing. It cannot, therefore, be separated from the producer, and hence it never enters into a market, in the same sense that material commodities do. Therefore, it is not subject to the same factors of supply and demand, etc., which influence the exchange of material wealth."

"It may therefore be accepted that the practice of medicine does not fit into the picture of general economics, and that any attempt to force it to conform to the same frame will not only result in great confusion, but, if carried to a logical conclusion, will result in untold harm to the public and to the medical profession, by causing deterioration of the character of medical service rendered, and by depressing still further our already greatly reduced income."

Britain Has No Choice

The following paragraphs were picked from an important paper on British Health Insurance read by Dr. R. G. Leland, Director of the American Medical Association's Bureau of Economics at the Secretaries' Conference at Chicago in September. The complete paper will doubtless appear shortly in the Bulletin of the American Medical Association and deserves careful reading there.

"The outstanding fact is that insurance has removed the possibility of a choice among the ways of meeting such problems. If we are to judge by the plans proposed by the British Medical Association and the public there is recognition, if not acceptance, of the inevitability, but not yet of the desirability, of the complete socialization of medicine.

Less Than Half Are Registered

"This situation may offer an explanation why nearly all of the statements of the representatives of organized medicine in Great Britain are favorable to insurance. The British Medical Association is now so deeply involved in the scheme and has given such hostages to political fortune in connection with its administration that it is pledged to its defense. Before accepting the statement which is so frequently made that the British physicians are practically unanimous in favor of insurance, it is well to consider that every physician has a chance to vote his approval in the most effective way by signifying his willingness to practice under panel conditions. Judged by this test, only 44 per cent of British physicians have so registered their willingness. The remaining 56 per cent apparently are not willing to accept the conditions of the scheme. Furthermore, of the 44 per cent that are registered as panel practitioners, there are many who still depend primarily upon private practice but who only enter their names upon the panel because of local situations.

"Much is made of the claim that insurance has increased the income of the panel physician. We can well believe this when we remember the conditions that preceded insurance. It has undoubtedly raised many physicians from a 'starvation' to a 'subsistence' level. The average income of a panel physician from insurance is about $2,000.00 annually. Approximately $1,000.00 of this must be spent in maintaining this practice. This does not indicate a very high level of payment, even though we remember that panel practice is often incidental and that the main dependence is upon private patients.

An Accomplished Fact

"The real reason why organized medicine in Great Britain and the great percentage of the population now express more or less of approval of insurance is because it is now an accomplished fact.

"Apparently, there is no movement in England to abolish health insurance. Such a movement would be futile. The nation has now progressed too far along the road. There is no turning back. The United States is not now where England stood in 1911. It is in a far more favorable position to choose the road it will follow. It has developed methods of meeting the prob-

lems of medical care that are far in advance of those existing in England at that time.

"We can still choose, but we must choose the road we will take and, having chosen, we must follow it. After the choice is made and institutions established, vested interests are created and political forces set in motion. It is then extremely difficult, if not impossible, to reverse the direction of the movement.

We Can Choose

"We must face the fact that if we enter upon this road there is little if any reason to believe that we can avoid the evils and take only the good of health insurance.

"If we decide to take the other road, to continue the practice of medical principles which have proved their value through so many centuries and to develop into an organized whole all the resources of private and institutional medical facilities and public and preventive medicine, we will have before us all the possibilities of flexible growth and development which are closed to us if we enter upon the closely walled road of insurance institutions.

"The choice of a road in England over which to carry medical care was not alone for the convenience and desires of the politicians, or for the magnanimous impulses of employers or friendly societies; the choice did not involve solely the interests of the medical profession. At the end of twenty-one years that road has become the avenue through which more than 17,000,000 people are supposed to obtain their medical services.

"If the medical profession of the United States intends to hold fast to its resolution to maintain for its prime object the services it can render to humanity, it cannot choose a road for itself—the road it chooses over which to carry medical care to humanity must be traveled by human individuals as well as the medical profession. That road should then be sufficiently open and broad to serve the best interests of those for whom it is built—the people and their physicians."

Michigan Plan Is Repudiated

The Michigan House of Delegates has "pigeon-holed" health insurance.

Last year Michigan sent Dr. H. A. Luce and Nathan Sinai, Dr.P.H., to England to study the English system of insurance medicine.

Last Spring these emissaries reported—and reported in such glowing terms—that the Michigan delegates instructed them to draw up a plan for Michigan which should be voted upon at their fall meeting. They went so far as to approve the principle of compulsory health insurance and become the first state medical society thus to go on record.

It so happened, however, that the annual meeting of the American Medical Association intervened, with results that are well known to all.

A ten point platform was drawn up at Cleveland against which every scheme for delivery of medical service must be measured. The white light of a considerable research into the actual workings of a large number of insurance schemes here and abroad was turned upon the whole question and the temper of the vast majority of the physicians of America showed itself as emphatically opposed to any sweeping change in medical practice in the United States.

No Publicity

The great foundations, whose whole force has been directed of late toward re-organization of medical practice, rejoiced and gave wide publicity to Michigan's action. The Luce Sinai plan, which was speedily forthcoming, was promptly put in the hands of all the newspapers.

Now that the Michigan plan has been quietly dropped, it is to be noted, however, that no rejoicing and no news releases on the subject have accompanied the final rejection. In the meantime the Wayne County Medical Society in the city of Detroit is quietly going ahead with a plan for easy long time payment for medical care which is notably successful so far and seems also to be entirely acceptable to the physicians of Detroit.

Those Hired Examiners

Two "teams" of physicians and nurses in the employ of the Safety and Compensation Division of the State Emergency Relief Administration are now at work on the rural districts of the State. Three others are employed in the Twin Cities.

The character and function of these teams has been questioned by a large number of physicians. It is explained as follows by C. H. Zealand, Director of Safety for the Division:

The teams are made up of two doctors each and two nurses.

They are engaged, exclusively, in giving physical examinations to relief workers employed on Emergency Relief Work projects and administrative employees of the SERA.

The object is to determine the fitness of these people for the work on which they are to be employed and to direct them to the type of work which they can do without harm to themselves and the danger of creating new disabilities for which the state will have to take care.

All workers are classed, according to findings of the examiners, as follows:

A. Suitable for any kind of work
B. Suitable for moderately light work
C. Suitable for particularly light work
D. Requiring medical attention.

Those who are found to need medical attention are immediately referred to the County Relief Worker for care by local doctors under the regular plan for medical relief. *The examining teams give no medical treatment whatever.*

The same plan of procedure is in use in many other states and has been found both humane and economically sound.

A surprisingly large number of cases of high blood pressure have been found, according to Mr. Zealand, among comparatively young workers. These have been removed from employment involving work on ladders and high places. Detection of hernia is frequent, also, and patients are referred to local physicians for treatment. Tuberculosis is also discovered rather frequently among both relief workers and administrative employees.

Funds available are too small to permit the Division to pay local doctors the regular allowance for physical examination under the direct relief schedule to do the work. The physicians employed come from all parts of the State. In two instances they were recommended for the positions by their county medical societies.

Conferring With The Legion

The scale and possible extension of hospitalization for veterans is by no means a closed issue.

With each session of Congress there is more than a possibility that the whole question of veterans' benefits will be re-opened or materially amended.

In view of that fact, the close association maintained between the legislative sub-committee of the American Medical Association and the special committee of the American Legion whose legislative program for veterans carries weight in Washington, is important.

At a recent meeting of these two committees in Chicago the entire question of a possible increase in hospitalization offered to veterans and the possibilities for extension of such care in their local communities were extensively discussed.

Representatives of both organizations were agreed that the Veterans Administration was not taking full advantage of privileges allowed under current regulations for hospitalization of veterans outside of the Veterans' Hospitals.

No Increase in Hospitalization

It is encouraging to note, however, that representatives of the Legion express no intention of asking for an increase of hospitalization of veterans except in a few isolated and exceptional instances from the next Congress.

The Veterans' Administration appears, also, to see no need for further increase of government hospital facilities except, here and there, for the care of neuro-psychiatric cases.

The following interesting recommendation was made by the joint group in Chicago.

That there should be close coöperation between the National Executive Committee of the American Legion and the Board of Trustees of the American Medical Association and that requests for additional hospitalization be referred to the American Medical Association. The medical association is then, in turn, to seek advice of a group composed of representatives of the Legion, of the state medical association, the state hospital association and the Veterans' Administration in the state from which the request has come. This advice is then to be transmitted to national headquarters of the American Legion.

They Welcome Medical Advice

A keen desire on the part of the representatives of the Legion to coöperate with the medical profession was shown in this conference. They will welcome medical advice on all questions relating to the care of sick veterans.

Invitation was again extended to the American Medical Association to send representatives to the national convention of the American Legion at Miami.

"The Foundations Speaking"

If you should turn the radio to Chicago, Milwaukee, Columbus, Cleveland, among other cities in a coast to coast network, any Monday evening between now and February, you are likely to hear a series of radio talks on the intriguing subject, "Doctors, Dollars and Disease."

Perhaps you have already received advance publicity on the program which has been sent out very widely in the name of the National Advisory Council on Radio in Education.

It is understood in well informed quarters that the series is financed by the Foundations that backed the Committee on Costs of Medical Care in the hope of arousing public interest in Health Insurance.

Academic Speakers--Not M.D.'s

The list of speakers and their subjects confirms this understanding. Most of them are doctors of philosophy rather than of medicine. Many of them are signers of the majority report of the Committee on Costs of Medical Care. Only one, Dr. Nathan B. Van Etten of New York City, can fairly be said to represent the practicing physician. And Dr. Van Etten's subject is restricted to a discussion of the abuses of medical charity in New York City.

William Trufant Foster, Ph.D., director of the Pollak Foundation for Economic Research, is chairman of the committee in charge. Other members are Dr. H. S. Cumming, Dr. Haven Emerson, Dr. Alice Hamilton, Dr. Thomas Parran and Dr. Ray Lyman Wilbur.

November, December Schedules

The November and December speakers include Dr. Parran, New York State's Health Commissioner, on "Public Health Needs," November 19; Dr. George H. Bigelow, Director of the Massachusetts General Hospital, on "Preventive Medicine," November 26; Dr. Van Etten speaks on December 3; Dr. Wilbur, now president of Stanford University, on "The Doctor's Part in Medical Care," December 10; Paul H. Douglas, Ph.D., Professor of Industrial Relations, University of Chicago, on "Uneven Costs of Sickness; How to Meet Them," December 17; Mr. Foster on "Tiny Tims of Today," December 24; Michael M. Davis and C. Rufus Rorem, Ph.D., CPA, Julius Rosenwald Fund, Chicago, on "Progress in 1934," December 31.

The omnipresent and irrepressible Mr. Davis who, incidentally, appeared on the program of the famous meeting in Philadelphia at which Dr. Morris Fishbein, single handed, defended the cause of the private practice of medicine, was scheduled to talk to the Association of Junior Leagues of America in convention in Minneapolis in October.

Reaction Of Labor To Health Insurance

Much has been alleged, perhaps rightly, on the subject of the dissatisfaction of the average American, particularly in industry, with the American system of medical practice.

These statements in behalf of the American working man have come, for the most part, not from accredited representatives of the workingman, but from the sponsors of studies by social service workers whose training and prejudices may not equip them to speak authoritatively in this very important matter.

Just what does the average American worker think of American medicine?

Is he dissatisfied? Does he want a change? Is he interested in Health Insurance as the solution of his medical problems?

Certainly somebody ought to find out just what labor unions and their representatives think of the whole problem of medical care before any experiments in social medicine, which will certainly fail without the interest and support of these elements of the population, are undertaken.

The American Medical Association, through its Legislative Committee, is now undertaking to find out, in as direct and practical a manner as possible, the answer to these questions.

The investigation will be carried on on a nation wide scale after a system of organization already well worked out. This important action follows a sensible recommendation to that effect made by House of Delegates at Cleveland.

Radio Education

Patent medicine advertisers find Minnesota the poorest state in the Union for response to their advertising in proportion to the amount of money they spend.

Why?

Better health education and a higher popular

standard of intelligence always coöperate to cut down returns on this type of advertising.

That there should be some relation between the vigorous public health education programs of the Minnesota State Medical Association—particularly its radio and newspaper health service programs—and this poor response of Minnesotans to patent medicine advertising is surely a legitimate inference.

In that connection, the last report of the association's radio committee is particularly interesting and significant.

Reaches Millions

The radio program of the association is now more than five years old and has, literally, reached millions of persons. Its popularity and effectiveness are well shown in the 1934 report.

In the last five years, Dr. William A. O'Brien, speaker from the start, has given 324 fifteen minute talks over WCCO, 59 of them within the past year.

The popularity of these programs judged by commercial standards is extraordinary. Each week brings in from five to twenty-five unsolicited letters from regular listeners.

Popularity Test

And the last real popularity test—the offer of the booklet "What Everyone Should Know About Cancer" made at just one broadcast in December, 1933, brought in 2,475 requests! This is the all-time station record for a morning broadcast.

As a direct result of the radio contact with the public, Dr. O'Brien has also made 94 talks in person during the last year, reaching an estimate of more than 14,000 persons.

All of these talks over the radio and from the platform have been on health and preventive medicine.

Two broadcasts each month have been devoted, in accordance with agreements with the heart and cancer committee, respectively, to heart and cancer education.

The following list of subjects covered between the date of April 5, 1933, and June 15, 1934, will be of interest.

Subjects of Radio Broadcasts

April 5, 1933, to June 15, 1934

Cancer of the Cervix
Cancer of the Rectum
Cardiac Asthma
Care of Crippled Children
Cause of Anemia
Cause of Hay Fever
Chickenpox
Child Health—A Challenge
Chinese Medicine
Congenital Heart Disease
Coronary Disease
Crippled Children and Their Problems
Dementia Precox
Dermatitis and Cosmetics
Diphtheria
Do Germs Cause Cancer
Environmental Medicine
Family Jaundice
First Aid in Poisoning
Food Magic
Forerunners of Cancer
Galvanic Mouth Burns
Getting Ready for School
Hand Infections
Hardening of the Arteries
Health Value of Play
Heart Fear
Heart Murmurs
Height, Weight and Health
Heredity and Cancer
History of Cancer
Insulin and Underweight
Jaw Tumors
Little's Disease
Low Blood Pressure
Measles
Medicine of the Aborigines
Mental Health in Childhood
Obesity and Heart Disease
Patient and Doctor
Periodic Health Examinations of Men
Periodic Health Examinations of Women
Problems of the Premature Infant
Sanitary Achievements
Some Heart Disease Problems
Sugar Hunger
The Cancer Problem
The Common Cold
The Heart in Goiter
The Heart in Infections
Treatment of Diabetes
Treatment of Varicose Veins
Tuberculin Testing
Tumors of the Bladder
Tumors of the Prostate
Tumors of the Skin
Twilight of Hearing
What Price Health?
When the Baby Cries

Seen By The Secretary

Being the Log of the Month of a Busy Medical Executive

Sunday, September 23.—All-day conference of the Executive Committee of the Council with Benjamin E. Youngdahl, Director of "Human" relief for the State Emergency Relief Administration; later with C. H. Zealand, Director of Safety, W. T. Norton, Director of Compensation, and A. V. Rohweder, Chief Advisor, all of the Division of Safety and Compensation of the State Emergency Relief Administration. The Council committee called in, among others, D. D. Turnacliff, of Minneapolis, Surgeon for the Street Railway Company, as consultant.

Allowance schedules for medical care of relief clients and of relief workers injured on relief work projects occupied most of the day's discussions—difficult problems. It is to be hoped, as a result of this meeting, that satisfactory agreements may soon be reached.

Monday, September 24.—Lunched in Saint Paul with Herman Johnson. Discussed medical affairs of the state.

Tuesday, September 25.—In Martin County. Conferred with R. C. Hunt, Fairmont, and S. A. Slater of Worthington.

Wednesday, September 26.—To Cedar Rapids, Iowa, for the Mississippi Valley Conference on Tuberculosis.

Monday, October 1.—Fine meeting of the Dakota County doctors at the home of H. R. Tregilgas in South St. Paul. The Dakota County Advisory and Contact Committee of three elected.

Tuesday, October 2.—Lunched with the committee of Deans of the University of Minnesota, who are preparing for the June meeting in Minneapolis of the American Association for the Advancement of Science. The meeting will be held at the same time as the an-

nual meeting of the Minnesota State Medical Association, with distinct advantages to both.

Wednesday, October 3.—To Fergus Falls for the annual meeting of the Minnesota Federation of Women's Clubs. Presided at the Minnesota Public Health Association's Health Court at which O. J. Hagen, Moorhead; W. L. Burnap, Fergus Falls; C. O. Estrem, M. W. Kemp, Fergus Falls; Kathleen Jordan, Granite Falls; and W. S. Broker, Battle Lake, served as medical witnesses.

Saturday, October 6.—Attended a meeting at the State Capitol of the Sanatorium Conference and the State Board of Control. Saturday evening at the Trudeau Society meeting in the Ramsey County Medical Society rooms in St. Paul. J. Burns Amberson of Bellevue Hospital, New York City, spoke.

Monday, October 8.—Executive Committee meeting of the Minnesota Public Health Association at headquarters, 11 W. Summit Avenue, Saint Paul. The following physicians are members of the Health Association's Executive Committee: C. H. Mayo, M.D., Rochester; J. A. Myers, M.D., Minneapolis; C. B. Wright, M.D., Minneapolis; E. K. Geer, M.D., Saint Paul; Geo. A. Earl, M.D., Saint Paul; S. A. Slater, M.D., Worthington; A. T. Laird, M.D., Nopeming.

Tuesday, October 9.—At Winona for the annual meeting of the Winona County Public Health Association.

Wednesday, October 10.—Talked to the boys at St. Mary's College, Winona.

Wednesday, October 17.—Presided at another Health Court for the Minnesota Congress of Parents and Teachers at Albert Lea. Medical witnesses this time were R. M. Wilder, Rochester; Horace Newhart, Minneapolis; Kathleen Jordan, Granite Falls; and W. D. Beadie, Cannon Falls. These Health Courts constitute an effective and very popular form of lay health meeting.

Wednesday Evening.—At the Freeborn County Medical Society meeting. Dr. Wilder and Dr. Newhart spoke. These men are chairmen, respectively, of the Committee on Diabetes and the Committee on Deafness Prevention and Amelioration and greatly interested in their work. They have something to tell that every doctor in the state should hear—something that is important to every doctor's private practice of medicine. It is to be hoped that every medical society will arrange to have them talk.

Thursday, October 18.—Evening—Special meeting of the Emergency Committee of the Council for final agreement on medical allowance schedules. Official bulletins on the matter will be issued shortly by the State Emergency Relief Administration. Mr. Youngdahl attended.

Friday, October 19.—At Worthington for the Southwestern Minnesota Medical Society meeting. Program: President F. J. Savage spoke on "The Work of the State Society"; Dr. Henry Meyerding of Rochester talked on "Fractures"; Dr. C. B. Wright of Minneapolis on "Coronary Thrombosis"; and Dr. J. A. Myers, Minneapolis on "Chest."

Minnesota State Board Of Medical Examiners

Freeborn County Quack Put Out of Business

Paul Richard, also known as "Doc" Richard

Following an investigation made by the Minnesota State Board of Medical Examiners, Paul Richard, also known as "Doc" Richard, has been stopped from practicing healing at Myrtle, Minn. Richard has been practicing in this little community in Freeborn County since about June 12 of this year. People were going to him from near and far, some patients traveling forty to fifty miles to visit this great "healer."

When questioned, he admitted that he was not licensed to practice healing anywhere in the United States, but claimed to be a graduate of a medical school in Berlin, Germany. However, he had neglected to bring his diplomas with him and claimed that he had left them at Conrad, Montana. When asked what kind of healer he was, Richard replied, "I am a Hindu healer." His treatment consisted of a light form of massage and the application of salve and ointment to that particular portion of the body that he was working on. The investigation discloses that he was seeing from fifteen to fifty patients per day. He made no charge, but accepted whatever was given to him by the patients. He felt quite sure that he was immune from prosecution because he charged no fee. In this he overlooked the well drawn provisions of the Basic Science Law that make it unnecessary for a person to charge a fee in order to be guilty of violating the law.

Richard came to Minnesota, according to his story, from North Dakota. He stated that he was not a native of this State and asked that he be given an opportunity to leave at once, which he did within one hour of the time that he was interviewed. When last seen he was driving in the direction of the Iowa State line. The Medical Board, however, has information indicating that Richard has gone to the State of North Dakota. It is extremely unlikely that this man will return to the State of Minnesota to operate, but if he should be seen anywhere in the State of Minnesota, and in any way attempts to practice healing, the Medical Board respectfully asks that it be immediately notified by telephone or telegram at 524 Lowry Medical Arts Bldg., Saint Paul. Richard is a man forty to forty-five years of age; five feet eight inches in height and weighs about 140 pounds. He has a very sallow complexion and a small growth on the lower left eyelid. He is a clever talker, his ability along this line being proven by the following that he built up in such a short period of time at Myrtle. He is driving a Terraplane automobile with Minnesota license plates for 1934 B487-131. He is accompanied by two young women, one of whom he stated was his wife and the other his sister-in-law.

MINNESOTA STATE MEDICAL ASSOCIATION

Eighty-first Annual Meeting

Duluth

PROCEEDINGS OF THE HOUSE OF DELEGATES*

First Meeting, July 15, 1934

The meeting of the House of Delegates of the Eighty-first Annual Session of the Minnesota State Medical Association, held at the Hotel Duluth, Duluth, Minnesota, was called to order at seven thirty-five o'clock by President Savage.

Dr. Boleyn, Chairman of the Credentials Committee, reported thirty-four accredited delegates present, and there being a quorum present the meeting was declared officially open for the conduct of business.

Dr. Crockett of Lafayette, Indiana, and Mr. Crownhart, Executive Secretary of the Wisconsin Medical Society, were greeted as guests of the House of Delegates.

By consent of the House, the minutes of the previous meeting of the House of Delegates were approved as published in the September and October, 1933, issues of MINNESOTA MEDICINE.

President Savage presented his report.

Secretary Meyerding reported in detail on the routine business of the State Office and gave a résumé of the committee and Council activities for the year. Much of this material was covered in detail in subsequent reports.

The Report of the Treasurer was presented by Dr. Condit.

REPORT OF TREASURER

MINNESOTA STATE MEDICAL ASSOCIATION

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE YEAR ENDED DECEMBER 31, 1933

CURRENT FUNDS

Cash on hand December 31, 1932			$ 7,211.71
CASH RECEIPTS, YEAR 1933			
Dues collected, 1933	$29,764.75		
Dues collected prior years	125.00		
Dues collected in advance	420.00		
		$30,309.75	
Interest on daily balance		35.22	
Interest on savings account		317.30	
Bruce Publishing Co. due on 1932 contract MINNESOTA MEDICINE		660.94	
Transferred from Technical Exhibit Fund for credit of Annual Meeting expense		1,000.00	
Total receipts			32,323.21
			$39,534.92
CASH DISBURSEMENTS, YEAR 1933			
Special Committees:			
Educational Fund†		$ 9,683.90	
Historical		392.93	
Hospitals and Med. Education		16.58	
Public Health Education		2,799.14	
Radio		826.89	
State Health Relations		173.91	
Unbudgeted Committees		390.30	
MINNESOTA MEDICINE		4,027.00	
Refunds for overpayment of dues		26.00	
Administrative Expenses:			
Annual Meeting		$ 1,638.80	
Conferences		1,454.02	
Council expenses		377.94	
County Officers' Meeting		386.10	
Legal expense		50.00	
Miscellaneous expenses		315.52	
Office supplies and postage		521.57	
Printed matter		403.66	
Rent		300.00	
Secretary's salary		4,200.00	
Secretary's travel expenses		310.98	
Stenographic service		1,849.04	
Telephone and telegraph		366.64	
Treasurer's salary and expenses		101.58	
			12,275.85
Total disbursements			30,612.50
Cash on hand Dec. 31, 1933			$ 8,922.42

*At the meeting of the Council February 24, 1934, it was voted to publish the Proceedings of the House of Delegates and the Committee reports in abbreviated form.

†This fund is higher during each Legislative Year.

It was moved by Dr. R. T. LaVake that the report be accepted; seconded and carried.

Dr. Workman presented the report of the Council, and moved its acceptance; seconded and carried.

REPORT OF THE COUNCIL

The Council of the Minnesota State Medical Association held its first meeting of the 81st Annual Session at the Hotel Duluth, Duluth, Minnesota, on Sunday, July 15, 1934, at 11 a. m.

The following were present:

F. J. Savage
H. M. Workman
N. O. Pearce
H. Z. Giffin
L. L. Sogge
J. S. Holbrook
W. H. Condit
G. A. Earl
J. M. Hayes
W. W. Will
W. L. Burnap
W. A. Coventry
E. A. Meyerding

Guests: F. S. Crockett, Indiana, C. B. Drake, J. T. Christison, H. M. Johnson, Mr. F. M. Brist.

The meeting was called to order by the Chairman, H. M. Workman.

The reading of the minutes was dispensed with.

Dr. Coventry read the quarterly report of the Bruce Publishing Company. MOTION made by Dr. Earl, seconded by Dr. Giffin and carried that the report be accepted.

Dr. Giffin, Chairman of the Finance Committee, read the report of the Fiscal Agency account. MOTION made by Dr. Coventry, seconded by Dr. Savage and carried, that the report be received with the recommendation that for the next six months any new buying of bonds be Government bonds.

The Auditor's report was summarized by Dr. Coventry. MOTION made by Dr. Earl, seconded by Dr. Workman and carried that the Auditor's report be accepted. It was the wish of the Council that the auditing of the books of the Editing and Publishing Committee be done only at the request of the Finance Committee.

The Treasurer's report for 1934 to date was read. MOTION made by Dr. Will, seconded by Dr. Holbrook and carried that this report be accepted. The Annual

Report of the Treasurer should specify the banks in which funds are deposited.

MOTION made by Dr. Coventry, seconded by Dr. Earl that the report of budget expenditures be accepted and placed on file.

Dr. Coventry commented on the comparison report of paid membership.

The following applications for Affiliate Membership were approved:

Geo. D. Haggard, Minneapolis — Hennepin County.
Theodore Thordarson, Minneota—Lyon-Lincoln County.
P. E. Sheppard, Hutchinson—McLeod County.
Chas. W. Tinker, Stewart—McLeod County
Jas. M. Markoe, St. Paul—Ramsey County
C. P. Dolan, Worthington — Southwestern Minnesota.

MOTION made by Dr. Savage, seconded by Dr. Burnap and carried that the Committee on Industrial Relations be continued.

MOTION made by Dr. Burnap, seconded by Dr. Earl and carried that the Mayo Resolution be read by Dr. Sogge at the banquet on Tuesday evening.

Dr. R. M. Wilder, Chairman of the Committee on Diabetes, appeared before the Council relative to the publication and distribution of the booklet entitled "Diabetes, How to Make it Harmless." MOTION made by Dr. Savage, seconded by Dr. Coventry and carried that the dissemination of simplified information concerning diabetes meets with the approval of the Council.

The Secretary introduced Dr. F. S. Crockett of Indiana.

The meeting adjourned for lunch.

At 2:30 p. m. the Council re-convened.

The report of the Committee on Medico-Legal Affairs was discussed. MOTION made by Dr. Coventry, seconded by Dr. Pearce and carried that this question be deferred and efforts be made to have the Medical Protective Company pay the bills rendered against Dr. S. A. Weisman of Minneapolis.

MOTION made by Dr. Coventry, seconded by Dr. Will and carried that the report on Affiliate Membership be immediately referred to the Reference Committee for report to the House of Delegates this evening.

MOTION made by Dr. Coventry, seconded by Dr. Pearce and carried that the report of the Committee on Constitutions be received and referred to the Reference Committee to be brought before the House of Delegates at its first session.

MOTION made by Dr. Will, seconded and carried that the Committee on Deafness Prevention and Amelioration be continued for another year.

The report of the Committee on Medical History was accepted and referred to the Finance Committee.

Dr. Hayes made a brief summary of the report of the Committee to Contact the State Board of Control regarding Federal and State Emergency Medical Relief.

MOTION made by Dr. Savage, seconded by Dr. Earl and carried that the Council authorize the Secretary to employ an assistant.

Dr. Crockett told briefly the situation in Indiana concerning emergency medical relief.

MOTION made by Dr. Coventry, seconded by Dr. Sogge and carried that an Emergency Advisory Committee composed of five members of the Council, three of whom shall constitute a quorum, be appointed to advise with the Secretary in all emergency matters pertaining to the policies of the State Association.

MOTION made by Dr. Hayes, seconded and carried that the present Committee to Contact the State Board of Control regarding emergency medical relief be continued.

The Secretary was authorized to cut down the proceedings of the House of Delegates for publication.

MOTION made by Dr. Coventry, seconded by Dr. Earl and carried that the Committee on Medical Economics be given the highlights of the Council meetings for publication in MINNESOTA MEDICINE.

MOTION made by Dr. Hayes, seconded by Dr. Sogge and carried that the Council appoint a Committee on Economics consisting of five members, this Committee to appoint such sub-committees as it considered necessary to carry out its activities, with the approval of the Council.

NOMINATION of Dr. H. M. Johnson and W. F. Braasch as Delegates to the American Medical Association were accepted. Alternates, G. A. Earl and W. L. Burnap.

Refund of 1934 dues of E. C. Muir, formerly of Minneapolis, was approved.

Dr. A. W. Eckstein of Mankato is to be dropped from membership roll.

The Secretary was authorized to issue a charter to the Washington County Medical Society using the officers for 1902.

Resolution from the Steele County Medical Society was referred to Dr. R. E. Scammon of the Medical School.

Motion from the Renville County Medical Society to be referred to the delegate from the County concerned.

Dr. B. J. Branton reported on his study of malpractice insurance.

Motion made by Dr. Coventry, seconded and carried that the offer of an annual lectureship from the Minnesota Radiological Society be accepted.

Motion made by Dr. Coventry, seconded by Dr. Burnap and carried that the report of the Reference Committee be accepted.

The meeting adjourned.

The following Councilors reported that conditions were satisfactory in their respective districts:

Dr. H. Z. Giffin.....First District
Dr. L. L. Sogge.....Second District
Dr. H. M. Workman.....Third District
Dr. J. S. Holbrook.....Fourth District
Dr. G. A. Earl.....Fifth District
Dr. J. M. Hayes.....Sixth District

Dr. W. W. Will.....Seventh District
Dr. W. L. Burnap.....Eighth District
Dr. W. A. Coventry.....Ninth District

As Delegate to the A. M. A., Dr. H. M. Johnson reported on the action taken by the Delegates of the A. M. A. on the Report of the Medical Service Board of the American College of Surgeons.

Dr. W. F. Braasch reported as Delegate of the A. M. A. and moved the adoption of the following resolution:

"The House of Delegates of the Minnesota State Medical Association assembled heartily endorses the sentiments and principles expressed by the action taken at the recent meeting of the House of Delegates of the American Medical Association at Cleveland in which were clearly stated the fundamental principles which should govern the practice of medicine both now and in the future as formulated in the (1) Ten Points and (2) the resolution that the American Medical Association is the proper body to legislate for and control the forms of medical practice.

"We further approve the resolution passed by the House of Delegates of the American Medical Association condemning any attempt on the part of any scientific medical organization whose members are also members of the American Medical Association to dominate or control the nature of medical practice."

The motion to adopt this resolution was seconded by Dr. J. M. Hayes, and carried.

Dr. J. T. Christison also reported as a Delegate to the A. M. A.

Report of the Regional Conference was presented by Dr. W. F. Braasch.

Report of the Committee on Public Policy and Legislation was presented by Dr. H. M. Johnson, Chairman, who stated that in spite of the fact that at the last year's special session of the Legislature no bills affecting medical interest were to be taken up, it became necessary to devote much time to looking after legislation. One bill which may have unfortunate consequences was passed early in the session, but many others equally unwise did not pass. The Reference Committee recommended that this report be accepted and that action of the committee be commended.

Dr. Walter L. Bierring, President of the American Medical Association, briefly addressed the House of Delegates.

Dr. Boleyn presented a supplemental report of the Credentials Committee, stating there were now forty-six accredited members of the House of Delegates registered.

Dr. L. R. Critchfield, Chairman of the Committee, presented the following report of the Committee on Public Health Education: The Committee recommended that the following activities be stressed for the coming year: (1) an active public health education committee for every county society; (2) a program to enlist interest in public health programs of the family doctor; (3) statewide development of the Speakers' Bureau and college lecture courses; (4) encouragement of orthopedic clinics.

The weekly newspaper service conducted by the committee now reaches 570 papers; a total of 864 health talks was arranged through State Headquarters; folders containing a list of the subjects on which material is available in the Speakers' Library were sent out to the entire membership; *Everybody's Health* was sent as in former years to all members of the State Legislature; for the third successive year, this committee coöperated with the Minnesota Public Health Association to examine 4-H club boys and girls from all over the state; the committee paid in part for the distribution of an attractive health manual for schools and also for the little health diaries awarded school children for buying Christmas seals, and for the first aid manuals which were again distributed this year: a reprint of the popular radio talk by Dr. O'Brien, "Patient and Physician" was sent out.

The Committee feels that the past year has witnessed unexampled activity on the part of its members.

The Reference Committee expressed itself as being in accord with the recommendations presented, and recommended that they be accepted; seconded by Dr. Boleyn and carried.

The Reference Committee moved that the Secretary's report be adopted, and that all acts, appointments and contacts made by the Council, the Secretary and the Treasurer for the past year be approved; seconded and carried.

The report of the Committee on State Health Relations was presented by Dr. T. H. Sweetser, Chairman, who said that considerable effort was made to solve the problem of the care of the indigent sick. The chairman alone or with officers of the State Association visited and discussed the problem in seven cities throughout the state and corresponded with officials of county societies elsewhere. The chairman and some members of the committee were drawn into meetings with other state medical association committees, with the State Board of Control and other agencies; also, the chairman attended most of the meetings of the State Board of Health and tried to present the Medical Association viewpoint in matters relating to immunization, tuberculosis control, health and sanitation in camps, and other health department projects.

Dr. Sweetser reported as follows, also for the Committee to Study Medical Care in Isolated Communities, that a careful investigation of reports that medical care was *not* available in certain communities showed doctors to be within easy reach of everybody in the state because of good roads and the automobile. The question rather was felt to be one of assisting these hard-pressed physicians to remain at their posts.

The following committees made reports, but in the absence of any new developments in their work, they are merely listed below:

The Committee on Laboratory and X-Ray Technicians
L. G. Rigler, M.D., Chairman
The Committee on Public Health Nursing
E. S. Boleyn, M.D., Chairman
The Committee on University Relations
L. L. Sogge, M.D., Chairman
The Editorial Association Committee
J. S. Reynolds, M.D., Chairman

The Editing and Publishing Committee reported as follows:

Despite the loss in advertising revenue and subscription receipts in MINNESOTA MEDICINE during 1933, expenses were reduced to a point where the journal paid its way, and, while conditions are not overly promising for 1934, they are such that there is hope for a substantial increase in volume for the year. If a larger advertising revenue is procured, it may be found possible to increase the size of the journal without additional cost to the State Association.

Radio Committee reported that fifty-nine radio talks were given over WCCO between April 5, 1933, and June 15, 1934, total programs being 324 to date. These talks were given by Dr. W. A. O'Brien, Associate Professor of Pathology and Preventive Medicine, University of Minnesota, and are published in abstract in *Everybody's Health,* the publication of the Minnesota Public Health Association.

Mail response is consistently good. An all-time station record for a morning broadcast was broken when 2,475 persons wrote in for a copy of the booklet "What Everyone Should Know about Cancer," which Dr. O'Brien discussed in a December program.

As a direct result of his radio contacts with the public, Dr. O'Brien has made ninety-four personal appearances during the year, speaking before some 14,000 people.

Seventeen hundred folders containing a general announcement of his program with his picture, and 8,900 copies of a booklet reprint of his talk called "Patient and Physician" were sent out to our members. We believe we are progressing in the education of the public.

It is significant to note that agencies placing advertising for patent medicines find Minnesota the poorest state in the Union for response to their appeals.

The Reference Committee commended the work of the Radio Committee, and in particular the time and effort put forth by Dr. O'Brien, and suggested that another effort be made to get an additional hour during the week over state KSTP. Also, the Reference Committee approved a resolution condemning the exploitation of drugs, remedies and so forth on the radio and recommended that it be brought to the attention of the Federal Radio Commission and remedial action undertaken; seconded by Dr. Boleyn and carried.

Report of the Committee on Hospitals and Medical Education was called for, but was not presented.

Dr. A. S. Hamilton reported for the Historical Committee that its compilations are not quite completed to date, but that it is their intention to present this material for the history of the association to the Council for publication before next year.

The recommendation of the Reference Committee was that this report be accepted and the recommendations received favorably; also that the profession throughout the state lend their assistance in the prosecution of this work, and that subscriptions to the publication should be widespread. Approved.

The Necrology Report was presented by Dr. A. S. Hamilton.

NECROLOGY REPORT

It has grown to be a custom to devote each year a moment to honoring the memory of those respected and beloved members of our Association whose spirits have passed on to the realm of eternity; some in the fullness of years and some whose race seemed hardly begun. In the activity of our professional duties we seem to lack time to manifest the true regard we feel for one another and we develop the habit of suppression that forbids us in life to say the kind words we really feel for one another.

It is the desire of your Historical Committee to express this sense of sorrow at the death of the many members whose names are here recorded and our sympathy with the relatives and friends who remain.

In Memoriam

May 20, 1933–June 30, 1934

Harry Aldes, St. Paul. Born 1884. University of Illinois, 1911. Died March 21, 1934. Aged 51.

Mason Allen, St. Paul. Born 1872. University of Minnesota, 1897. Died August 31, 1933. Aged 60.

Wilson A. Allen, Rochester. Born 1834. Hahnemann Medical College, 1874. Died May 11, 1934. Aged 100.

Hugh C. Arey, Excelsior. Born 1878. University of Minnesota, 1902. Died May 20, 1934. Aged 56.

Knox Bacon. San Diego. Formerly of St. Paul. Born 1864. University of Minnesota, 1894. Died April 7, 1934. Aged 70.

Frank E. Balcome, St. Paul. Born 1872. Eclectic Medical Institute, Cincinnati, 1899. Died Oct. 21, 1933. Aged 61.

Robert Stewart Bole, St. Paul. Born 1860. University of Vermont, 1884. Died Sept. 16, 1933. Aged 73.

Harold S. Boquist, Minneapolis. Born 1888. University of Minnesota, 1921. Died June 11, 1934. Aged 45.

Mathias H. Cremer, Red Wing. Born 1870. Kentucky School of Medicine, 1891. Died May 26, 1934. Aged 64.

Cyrus Bowers Eby, Spring Valley. Born 1872. University of Minnesota, 1892. Died Jan. 20, 1934. Aged 62.

Ross M. Gamble, Albert Lea. Born 1896. University of Minnesota, 1922. Died May 5, 1934. Aged 38.

David Graham, Duluth. Born 1859. Detroit College of Medicine, 1893. Died November 11, 1933. Aged 74.

R. D. Graham, Duluth. Born 1884. Chicago College of Medicine and Surgery, 1915. Died December 26, 1933. Aged 49.

Earle R. Hare, Minneapolis. Born 1872. University of Minnesota, 1900. Died April 7, 1934. Aged 61.

Angell S. Hoiland, Minneapolis. Born 1884. University of Minnesota, 1910. Died February 22, 1934. Aged 49.

Fred N. Hunt, Fairmont. Born 1857. Missouri Medical College, 1883. Died January 31, 1934. Aged 77.

Helmer Walter Huseby. Floodwood. Born 1899. University of Minnesota, 1926. Died March 22, 1934. Aged 34.

Hartland Cyrus Johnson, St. Paul. Born 1860. College of Physicians & Surgeons, Chicago, 1886. Died November 26, 1933. Aged 73.

E. D. Keyes, Winona. Born 1859. Rush Medical College, 1885. Died May 21, 1934. Aged 75.

Muret N. Leland, Minneapolis. Born 1874. College of Physicians and Surgeons, Chicago, 1896. Died May 28, 1934. Aged 60.

John Dexter Lyon, Minneapolis. Born 1875. Northwestern University, 1904. Died May 29, 1933. Aged 58.

Thomas E. McDermott, Minneapolis. Born 1857. Chicago Medical School, 1883. Died February 20, 1934. Aged 77.

James McKeon, St. Paul. Born 1861. Physicians and Surgeons College, Minneapolis, 1889. Died July 5, 1933. Aged 71.

Brewer Mattocks, St. Paul. Born 1841. St. Louis Medical College, 1864. Died February 25, 1934. Aged 93.

C. P. Nelson, Owatonna. Born 1869. University of Michigan, 1896. Died July 14, 1933. Aged 64.

Benjamin F. Simon, St. Paul. Born 1870. Rush Medical College, 1900. Died December 15, 1933. Aged 63.

J. T. Smallwood, Worthington. Born 1882. University of Minnesota, 1908. Died May 24, 1933. Aged 52.

Adolph Stierle, St. Paul. Born 1867. University of Minnesota, 1901. Died August 8, 1933. Aged 66.

Harold L. Stolpestad. St. Paul. Born 1879. University of Minnesota, 1902. Died October 18, 1933. Aged 54.

John O. Taft, Minneapolis. Born 1879. College of Physicians and Surgeons, Minneapolis, 1907. Died August 29, 1933. Aged 54.

George S. Wattam, Warren. Born 1856. Victoria University, Coburg, Ontario. 1884. Died March 17, 1934. Aged 77.

H. R. Weirich. Hibbing. Born 1872. Columbia University, 1896. Died October 29, 1933. Aged 61.

Charles G. Weston, Miami. Formerly of Minneapolis. Born 1858. Harvard Medical School, 1882. Died March 2, 1934. Aged 76.

Edward H. Whitcomb, St. Paul. Born 1861. Columbus Medical College, 1884. Died June 8, 1933. Aged 72.

FORMER MEMBERS

Nels Andrew Biorn, Jackson. Born 1874. Minneapolis College of Physicians and Surgeons, 1901. Died February 4, 1934. Aged 59.

Andrew Jackson Gilkinson, Osakis. Born 1863. University of Minnesota, 1893. Died December 26, 1933. Aged 70.

E. E. Harrison, West Concord. Born 1866. University of Minnesota, 1897. Died June 11, 1934. Aged 68.

By virtue of their long and busy lives, two members of our Association seem to deserve special mention:

Dr. Wilson A. Allen died May 11, 1934, being then the oldest living active practitioner of medicine in the United States and having practiced the art of medicine seventy-eight years.

Dr. Brewer Mattocks entered the medical service in the Civil War at twenty years of age and died February 25, 1934. Though a graduate in pharmacy only, he succeeded in entering the medical service in 1861 and near the close of the war, as did many others, was given his diploma in medicine. During the last years of his life he was blind and was an inmate of the Minnesota Soldiers' Home for some years. He was a charter member of the State Medical Association at its reorganization in 1869.

A. S. HAMILTON, M.D., *Chairman*

The audience arose and stood in silence in memory of the deceased members.

The Heart Committee, of which Dr. F. J. Hirschboeck is Chairman, reported that they have availed themselves of the kind offer of MINNESOTA MEDICINE to supply space for articles prepared by members of the committee and that it is their purpose to have one short paper each month bearing on some phase of heart disease which will be of interest to the men in practice. The Reference Committee recommended the acceptance of the report. (Approved.)

The Committee of Medico-Legal Affairs, of which Dr. W. H. Hengstler is Chairman, reported a case which was brought to their attention in which a certain Minneapolis doctor, who believed himself fully covered, was denied the coöperation of his insurance company in a malpractice suit. In the light of this situation, the committee recommends that all members of the state association investigate carefully their medical protective policies, no matter in what company they are written, to be sure that they are fully protected. The Reference Committee reported concurrence in the recommendations of the committee as submitted in its report. (Approved.)

The report of the Committee on Industrial Relations, presented by Dr. J. M. Hayes, outlined the efforts that have been made by the committee to come to some satisfactory understanding with the representatives of the various Workmen's Compensation Insurance Companies, with the result that the adjustors have agreed not to sanction literature instructing the public that the employee has no right to choose his own physician. The Industrial Commission was also interviewed by the committee. The Commission has had few complaints from doctors and it has always advised payment of reasonable bills.

The Reference Committee recommended that the report be accepted, and that the committee be given to understand the work they have done is thoroughly appreciated; seconded and carried.

The Committee on Military Affairs, Lieut. Col. W. G. Workman, M.D., Chairman, recommended that an active committee be appointed to urge the younger men in county societies to apply for appointment to the Medical Reserve; that the committee make a study to determine the advisability of re-establishing the Medical Department in the R. O. T. C. at the University; that the Council consider an endorsement of and an insistence on the retention of the R. O. T. C. as a whole at the University; that physicians having applied for commissions try to perfect themselves through correspondence courses so that they may advance in proficiency and rank; that membership in and support of the Minnesota Reserve Officers Association be encouraged.

The Reference Committee recommended that this report be referred back to the Committee on Military affairs, and that it would be inadvisable for the State Medical Association to take any action on the second or third recommendations of the report; seconded, and carried.

The Cancer Committee, Dr. Martin Nordland, Chairman, reported that, in an endeavor to arouse interest in the profession with reference to cancer, the committee is urging the institution in each county society in the state of the custom of devoting one meeting a year entirely to this subject. It is also planned that cancer shall receive a more prominent place in the State Meeting programs. Consequent improvement in the handling of cancer patients by the family physician is anticipated.

It was recommended by the Reference Committee that the Report of the Committee on Cancer be accepted.

An informal report of the Committee on Interprofessional Relationship, in which it was proposed that the work of the Committee could best be carried on within the membership and through several association agencies and committees, was presented by Dr. B. S. Adams, Chairman. The recommendation of the Reference Committee that this report be accepted was approved.

The report of the Committee on Diabetes was presented by Dr. R. M. Wilder, Chairman, who outlined arrangements for the exhibit on diabetes at the State Meeting. The exhibit was accompanied by talks by committee members. Dr. W. A. Stafne, also of the committee, read a paper on the rapid spread of the disease in Minnesota before a general session at the meeting. It is hoped by the Committee that these activities will arouse greater interest in the disease and consequent improvement in the handling of diabetic patients by their home doctors. He also explained the plan to publish and distribute to doctors for use of their patients the booklet "Diabetes, How To Make It Harmless."

The Reference Committee recommended the adoption of this report and its recommendations, and also suggested that Dr. Wilder prepare a statement or letter

to be sent to the individual county societies to be read or published in their bulletins as to the reason for the publication of the booklet on diabetes. It further recommended that Dr. O'Brien give a radio talk on diabetes and state that these pamphlets are available through the family physician; seconded and carried.

Dr. Horace Newhart, Chairman, presented the report of the Committee on Deafness Prevention and Amelioration, which showed definite progress during its first year of existence. Its activities include efforts to stimulate active interest among physicians, educators, and parent-teacher groups in the neglected problem of deafness prevention, the conservation of hearing, and the amelioration of the condition of those who have a handicapping hearing loss.

Surveys of pupils in teachers' college towns and a CWA project testing the hearing of 5,575 school children in rural Hennepin County have been conducted by the Committee. The work is chiefly directed to point out the needs of the school child and the importance of incorporating into the regular school health program the periodic testing of hearing with an audiometer.

The Reference Committee recommended that the report of this committee be accepted, feeling it is along the lines of public health education and cannot fail to enhance and increase the activities of the physician, and also tends to enhance and increase the activities of the profession along the lines of preventive medicine; seconded and carried.

The Committee on Medical Economics, represented by Dr. W. F. Braasch, Chairman, reported the establishment of a special department in MINNESOTA MEDICINE which should deal with such subjects in the current progress of medical economics of interest to State Association members. It is believed that by informing organized medicine thoroughly on economic matters, a powerful defense will be established against the inroads of socialization.

As a further report of this committee, Dr. J. C. Michael presented his findings with regard to group health and accident, annuity and life insurance, and prepayment hospital insurance. Dr. Michael reported that as to group annuities and group life insurance, those forms of insurance were not feasible for members of the Association and that prepayment hospital insurance was not looked upon very favorably by the profession. No recommendations were made.

On the question of malpractice insurance, Dr. A. F. Branton reported for the Committee that the rate on this form of insurance had been increased, as found from answers to questions on this matter sent to members of the profession in this state. This matter of rates was taken up with the insurance companies concerned, and from the data submitted to Dr. Branton as to the number of malpractice suits brought he felt the increase in premiums was justified. It was felt by Dr. Branton that the members should be thoroughly conversant with the laws governing medical practice, and that through that knowledge the number and size of verdicts could be materially reduced. He felt the members could become better practitioners through taking postgraduate courses, and there would be less chance for malpractice suits being brought, and that instead of one member of the profession testifying against another member, the profession should unite behind the defendant of a suit where such action would not be unethical.

The recommendation, as presented by Dr. Branton, was that the action of any member of the State Association who testified against another member of this Association in good standing be submitted to investigation by the Committee on Ethics of his county society and that the member be subjected to censure or expulsion as the Council of the Minnesota State Medical Association might deem advisable.

Dr. Boyer discussed Dr. Branton's recommendation and stated that he objected to the move to censure anyone testifying against another member of the Association. He felt it would be better to investigate the justice of such testimony by a fellow member, and the conditions under which such testimony was given, since there were times when a person could not avoid appearing on the witness stand on the side opposite to that of his fellow practitioner.

This portion of the report by Dr. Branton was not formally before the Reference Committee, but Dr. Boyer, speaking for himself, recommended the acceptance of the report and suggested that the recommendation be referred back to the committee for further consideration.

Dr. Branton withdrew the recommendation, and the recommendation of Dr. Boyer to accept the report was seconded and carried.

The Committee on Limitation of Medical Licenses, presented by Dr. N. O. Pearce, Chairman, recommended that physicians be kept informed of the present over-saturated condition of medical practice and be urged to discourage young people from choosing a medical career; that the Administration of the University be continually informed of the conditions governing medical practice and its coöperation be invited to assist in promoting plans to curtail the number of new men and women entering practice; that if the legislative committee makes any attempt to change the present statute governing the State Board of Medical Examiners, it incorporate a clause giving the Board discretionary powers as to the number of physicians to be granted licenses; that, inasmuch as the ratio of physicians to population in Minnesota is now more than adequate, a figure not exceeding the present ratio be maintained. The number licensed each year since 1930 has decreased from 171 in 1930 to seventy-three in 1934.

The Committee also recommended that, since the present income of the State Board of Medical Examiners is inadequate, the Board endeavor to establish regulations requiring all physicians holding Minnesota licenses, regardless of present location, to register and pay the fee annually on penalty of having their licenses to practice revoked. This would either add materially to the funds of the Board or eliminate most of the 1,900 licenses now held by non-resident and non-registering physicians.

The Reference Committee recommended that the

fact-finding features of the report be accepted, and that the subject of limitations of number of physicians to be licensed in Minnesota be referred back to the committee for further study and that they confer with the Committee on University Relations and the Committee on Public Policy and Legislation, and report back next year; seconded and carried.

The Committee on Contract Practice, of which Dr. S. M. White is Chairman, reported that a scheme to establish contract practice in a group of school teachers was circumvented by officers of the committee who interviewed outstanding school superintendents and pointed out to them the undesirability of the arrangements proposed.

The report of the Committee on Federal and State Medical Relief was presented by Dr. J. M. Hayes and Dr. N. O. Pearce, Chairman. High lights of this exhaustive report follow.

REPORT OF COMMITTEE ON FEDERAL AND STATE MEDICAL RELIEF

"It is probable that the initiation and development of medical relief programs throughout the country has been one of the most significant developments in the practice of medicine.

"The results will be more far-reaching than any of us at the present time can foresee.

"It is entirely possible that the performance of the members of the medical profession during this present economic situation will determine whether government officials and the public will ultimately regard physicians as self-seeking opportunists or as humanitarians, working wholeheartedly with the government in its program for the amelioration of the condition of the poor."

DIVISIONS OF THE MEDICAL RELIEF PROGRAM IN MINNESOTA

1. Medical care in the Civilian Conservation Corps
   (Cared for by Army Physicians)
2. Child health recovery
   (Not developed so far as physicians were concerned. Many thousands of children were inspected by C. W. A. nurses made available to the Minnesota Child Hygiene Division.)
3. Civil Works Program
   (Medical care divided among local physicians except in Minneapolis, St. Paul, Duluth. Physicians received total of $34,964.17; Clinics, $861.65; Hospitals, $13,647.79; Nurses, $1,354.26. Now discontinued.)
4. Work Relief Program
   (Succeeded CWA. Government no longer responsible for Workmen's Compensation or for care of injured employees. Responsibility returned to local authorities. Families of workers eligible, however, for emergency medical, nursing, dental services the same as families on direct relief.)
5. Safety Division SERA
   (Small, little known, group; maintains a safety inspector in each county who inspects working conditions; supervises care of injured; personnel:
   8 doctors, paid $160 a month expenses each
   8 nurses
   1 technician
   2 stenographers
   2 clerks)
6. Medical Care of Transients in Relief Camps
   (In outlying camps care furnished by local physicians and hospitals; physicians paid according to direct relief schedule; hospitals at $1.20 daily rate.
   Federal funds finance it.
   At Camp Mendota a medical unit is maintained of 2 physicians at $165 and $150 per month, 2 dentists $165 and $125 per month.)
7. *Direct Relief in the Homes*

Controlled by Rules and Regulations No. 7 FERA Bulletin (and SERA) dated Nov. 13, 1933.

Funds provided for "medical care in the home," medicines, nursing, dental care. No limitation placed on percentage of relief funds to be expended for the purpose. No funds to be used for hospitalization or for duplication of all already existing institutions for care of the poor.

Spent in Minnesota up to and including March, 1934, under this plan:

$46,818.38 (exclusive of Hennepin, Ramsey, St. Louis)

Spent for total direct relief in the home same period $3,178,553.57

(Original report gives complete monthly figures for each county.)

Omitting Hennepin, Ramsey and St. Louis, medical care expense is about 1.3 per cent of the total. In St. Louis County, physicians received about 3.1 per cent of the total relief expenditure.

PRESENT PLAN NOT ENTIRELY SATISFACTORY

Mr. Benjamin E. Youngdahl, Director, Division of Social Service, SERA. (Relief in the Home)

1. There are difficulties in equitable administration
2. Service is not uniform in all counties
3. Some doctors have attempted to use the program for their personal benefit
4. Some members of the relief administration are inclined to believe that they could give several times as much service by the employment of full-time or part-time doctors on a salary basis.

CONCLUSIONS AND SUGGESTIONS

1. Child Health Recovery Program: Of minor importance except as it shows tendency to designate examinations made by nurses as "inspections," a term under which any sort of irregular clinic may be held. The line of limitation of the diagnostic activities of the nurse should be sharply drawn and maintained.

2. Medical phases of the CWA were carried out in a satisfactory manner in the main. We question the necessity of setting up government clinics in the three large cities, however.

3. Work Relief Program. Physician should come to a satisfactory arrangement with local authorities for this work.

4. Medical Care in Transient Camps makes an un-

favorable impression so far as the salary schedule for physicians goes. This may be noted as a sample of what we may expect if the time ever comes when we have medicine under lay control.

5. SERA activities (most important of all, so far as the medical profession is concerned).

"As a profession it is our duty to care for those who are in need of our services regardless of their ability to pay. To the great honor of the medical profession, this duty has always been and always will be fully met. Because of present conditions and the general decrease in physicians' incomes, which, in many cases, scarcely provide for expense and maintenance, the federal government has made available to physicians certain allowances while caring for our temporarily indigent patients. We should accept this money from the government in no sense as a *professional fee for medical services rendered* but simply as a temporary plan of allowance for expense and maintenance. We must guard against any employer-employee relationship with these lay bodies which are administering relief.

"We should conduct ourselves in participating in this program in such a manner as to maintain the best principles of unselfish service in order to retain the respect of those with whom we are working. We must do this regardless of any temporary sacrifices entailed, rather than become entangled in, or have thrust upon us, plans for cheap medical service through schemes of SERA clinics or hiring medical men for this service—proposals which are undoubtedly being considered by some relief workers."

It has been suggested that the operation of the present plan would be greatly facilitated if a competent medical man were directing this phase of the program. Such a person might be employed by the SERA. It is also suggested that the State Medical Association employ an assistant to Dr. Meyerding who would devote his full time to aiding the SERA in carrying out the medical phase of the program. The situation requires more attention than is possible under our present set-up.

It is also suggested that, with the approval of SERA officials, the president of each constituent medical society be urged to appoint a committee of three in each county to confer with the Local Relief Committee in all matters pertaining to Medical Relief.

"It is possible that we are on the brink of some form of federal supervision of medical practice. It is therefore of the utmost importance that the medical profession meet the demands of our present financial dilemma in such an efficient and unselfish manner that no grounds may be found either for federal or state interference with our present method of medical practice."

The Reference Committee moved that these reports be accepted and such recommendations as they contain be concurred in; seconded and carried.

Dr. L. L. Sogge, Chairman, reporting for the Committee on Affiliate Membership, said that there is a definite feeling in some of the county societies that the age limit for affiliate membership should be reduced from seventy years to sixty-five years. But the committee recommends that the following information be placed before the House of Delegates with the recommendation that a year's study be put upon the question before final decision; that this information and any additional information which may be obtained be presented to each county society for their discussion during the year; that affiliate membership should be regarded by the membership of the association as an honorary membership and that the dissemination of this sentiment is most important and that the question of age limit is a secondary consideration.

The widespread granting of affiliate membership would definitely reduce the income of the State Association and might necessitate an increase in the dues if the present standard of work or service is to be continued. At present, there are seventy-seven affiliate members, representing a reduction in income of $1,155.00. There are forty-two members who are eligible to affiliate membership at age seventy, representing a possible reduction in income of $630.00. There are 53 additional members who are at present between the ages of 65 and 69, representing a possible reduction in income of $795.00 within the next five years.

In other words, the income of the society is at present reduced by the affiliate membership $1,155.00. If all the members now over sixty-five apply for affiliate membership the income of the society would be reduced by an additional amount of $1,425.00, making a total of $2,580.00. This would be slightly reduced by the cost to the Association of MINNESOTA MEDICINE. It can easily be seen from these figures that the income of the Association over a period of years would be very definitely affected and might necessitate an increase in the dues of active members.

It was moved by Dr. Griffin, seconded and carried that this report be again presented at a subsequent meeting of the House of Delegates.

It was moved by Dr. C. L. Scofield, seconded and carried that the following charters be granted:

Olmsted-Houston-Fillmore-Dodge County Medical Society
Kandiyohi-Swift-Meeker County Medical Society
Renville County Medical Society
Washington County Medical Society

It was moved by Dr. J. M. Hayes, seconded and carried that Dr. J. W. Livingstone of Hudson, Wisconsin, be accepted as Associate Member in the Association.

On motion of Dr. W. F. Braasch, duly seconded, it was voted to accept the offer of the Minnesota Radiological Society to establish the Russell D. Carman Lectureship.

Dr. A. A. Passer of Olivia read a letter written by the secretary of the Renville County Medical Society concerning a motion adopted at their meeting, about malpractice cases. The State Secretary was to be asked to get in touch with the various insurance companies and organize some form of medical defense. It was also the wish of the Society that this subject be discussed at the meeting of the House of Delegates.

It was moved by Dr. C. L. Scofield that this matter be referred to the Medico-Legal Committee and have them report to the Council; seconded by Dr. Boleyn and carried.

It was moved by Dr. Scofield, seconded and carried, that meeting adjourn until one o'clock Monday afternoon.

Adjourned at eleven forty-five o'clock.

HOUSE OF DELEGATES
Monday, July 16, 1934

A special meeting was called to hear Dr. Walter L. Bierring, President of the American Medical Association, Dr. F. S. Crockett of Indiana, and Mr. J. G. Crownhart, Secretary of the State Medical Society of Wisconsin, on the questions relating to social insurance and medical relief.

HOUSE OF DELEGATES
Tuesday Afternoon, July 17, 1934

The meeting was called to order at 1:10 o'clock by President Savage.

Secretary Meyerding announced that according to the roll call fifty-one delegates were present.

Dr. Boleyn, presenting the final report of the Credentials Committee, reported fifty-one delegates had presented their credentials.

The minutes of the previous meeting were read by Secretary Meyerding, and on motion of Dr. Sogge, regularly seconded, it was voted to approve the minutes as read.

The report of the Council was read by Secretary Meyerding:

REPORT OF THE COUNCIL

The Council of the Minnesota State Medical Association held its second meeting of the 81st Annual Session, at the Hotel Duluth, Duluth, on Monday, July 16. Dinner was served at 5:30 P. M.

The following were present:

F. J. Savage	G. A. Earl
H. M. Workman	W. W. Will
H. Z. Giffin	W. L. Burnap
L. L. Sogge	W. A. Coventry
J. S. Holbrook	E. A. Meyerding

Guests: S. H. Boyer, Mr. F. M. Brist

The meeting was called to order by the Chairman, Dr. Workman.

The reading of the minutes was dispensed with.

Dr. Savage summarized a report received from the University of Minnesota relative to the amount earned by the University Staff for private work. MOTION made by Dr. Savage, seconded and carried that this matter be referred to the Committee on University Relations for report and the papers be filed in the Secretary's Office.

MOTION made by Dr. Giffin that the Committee on University Relations consider the advisability of requesting Dr. R. E. Scammon of the Medical School to establish, as a permanent feature, a series of lectures on medical organization as part of the instruction in the senior year. Seconded by Dr. Burnap and carried.

Mr. Brist outlined the situation at the South St. Paul Stockyards with reference to veterinarian examination. MOTION made by Dr. Burnap, seconded by Dr. Giffin and carried that this matter be left in the hands of the Medico-Legal Affairs Committee.

A discussion on malpractice cases followed. It was the sense of the Council that Dr. Burnap submit a questionnaire which will be sent to each Councilor for criticism. Mr. Brist to make any suggestions he considers advisable.

The Councilor Districts were redistricted to conform with the County Medical Societies. MOTION made by Dr. Coventry, seconded by Dr. Will and carried that the Secretary write to the members in Koochiching County asking if they would prefer to transfer to St. Louis County Medical Society or remain in the Upper Mississippi Medical Society. A copy of this letter is to be sent to Dr. Coventry, as Councilor, for his approval.

The Secretary reported on the replies received from local Secretaries concerning indigent physicians.

Dr. Horace Newhart requested permission to increase his Committee by two members, one to be Dr. F. E. Harrington of Minneapolis and, as an ex-officio member, Mr. Leonard M. Elstad, Supt. of the State School for the Deaf, Faribault. Dr. Harrington was accepted but Dr. Newhart will be advised that Mr. Elstad shall act in an advisory capacity only.

Dr. Giffin reported for the Finance Committee relative to the employing of a Field Representative for the State Association. MOTION was made, seconded and carried that the Association enter into an agreement to employ said representative for one year.

The meeting adjourned and re-convened at 9 o'clock with representatives from the Emergency Relief Administration. The program of medical relief was discussed. MOTION made by Dr. Pearce, seconded by Dr. Burnap and carried that it was the sense of the meeting that Mr. Edmonds and Mr. Youngdahl indicated a great spirit of coöperation in this work.

The meeting adjourned.

On motion of Dr. Scofield, it was regularly seconded and carried to adopt the redistricting of the Councilor Districts as outlined in the report. The Councilor districts as now constituted are as follows:

District 1.—Dodge, Fillmore, Freeborn, Goodhue, Houston, Mower, Olmsted, Rice, Steele, Wabasha, Winona

District 2.—Cottonwood, Faribault, Jackson, Martin, Murray, Nobles, Pipestone, Rock, Watonwan

District 3.—Big Stone, Brown, Chippewa, Kandiyohi, Lac Qui Parle, Lincoln, Lyon, Meeker, Pope, Redwood, Stevens, Swift, Traverse, Yellow Medicine

District 4.—Blue Earth, Carver, Le Sueur, McLeod, Nicollet, Renville, Scott, Sibley, Waseca.

District 5.—Anoka, Chisago, Dakota, Isanti, Kanabec, Mille Lacs, Pine, Ramsey, Sherburne, Washington

District 6.—Hennepin, Wright

District 7.—Aitkin, Beltrami, Benton, Cass, Clearwater, Crow Wing, Hubbard, Morrison, Koochiching, Stearns, Todd, Wadena

District 8.—Becker, Clay, Douglas, Grant, Kittson, Lake of the Woods, Mahnomen, Marshall, Norman, Otter Tail, Pennington, Polk, Red Lake, Roseau, Wilkin

District 9.—Carlton, Cook, Itasca, Lake, St. Louis

Dr. Giffin gave a résumé of the work of the proposed field representative and the qualifications of the man with whom negotiations were made to carry on

this work. Following general discussion of this matter, it was voted to confirm the action of the Council in entering into an agreement with the proposed said field representative.

The report of the Council was accepted.

Dr. Boyer reported on the meeting of the Council with representatives from the Emergency Relief Administration, and general discussion ensued on this topic.

Secretary Meyerding brought out the fact that all Councilors should be notified of Medical Society meetings in their respective districts.

The following officers were nominated and elected:

President.....W. A. Coventry, Duluth
First Vice President....A. G. Chadbourn, Heron Lake
Second Vice President.....E. S. Boleyn, Stillwater
Secretary.....E. A. Meyerding, Saint Paul
Treasurer.....W. H. Condit, Minneapolis
Councilors:
Third District.....H. M. Workman, Tracy (3 years)
Fifth District.....G. A. Earl, Saint Paul (3 years)
Seventh District.....W. W. Will, Bertha (3 years)
Ninth District.....B. S. Adams, Hibbing (For the remainder of the unexpired term)

Delegates to the American Medical Association:

Delegates	*Alternates*
H. M. Johnson, Dawson	G. A. Earl, Saint Paul
W. F. Braasch, Rochester	W. L. Burnap, Fergus Falls

Elected for term of two years beginning January 1, 1935.

On motion of Dr. Adams, regularly seconded, it was voted to ratify the action of the Council in electing as Delegate and Alternate to the American Medical Association Drs. J. T. Christison and E. A. Meyerding, respectively, to fill the unexpired terms.

The special Committee on Constitutions, Dr. W. H. Hengstler, Chairman, reported the formulation of two sample "model" constitutions, one for smaller societies, and one for societies in larger communities. The committee recommended that each county society study its present constitution in the light of these samples. The committee will continue its work and final recommendations will wait for the model now under preparation by the American Medical Association.

Reporting for the Reference Committee, Dr. Boyer recommended that the report be accepted, together with its recommendations; seconded and carried.

The amendment to the State Association Constitution which was introduced by the Ramsey County delegation was carefully considered by the Reference Committee, and its recommendation is that this amendment be referred to the State Committee on Constitution and By-Laws without recommendation, to be reported on at the next meeting; seconded, and carried.

The report of the Committee on Affiliate Membership was discussed, and Dr. Hultkrans made a motion that the recommendation of the Council committee considering the question of affiliate membership be accepted; regularly seconded and carried.

It was moved by Dr. Scofield, regularly seconded and carried, that the next meeting of the Minnesota State Medical Association be held in Minneapolis, the date to be set by the Council.

President Savage appointed Drs. Locken and Haney as a committee to present the President-Elect at the presentation of officers Wednesday.

Dr. Thabes read a proposal for statewide tuberculosis work by the State Board of Health, which was approved by the House of Delegates.

Dr. Magney made a statement concerning the State Board of Medical Examiners and its financial status. It was moved by Dr. Slater, regularly seconded and carried that the matter of the shortage of funds, and the report of the State Board of Medical Examiners be referred to the Council with power to instruct their Legislative Committee to act.

President Savage appointed Dr. Hagen, Dr. Liedloff and Dr. Locken as a committee to present resolutions of thanks to the St. Louis County Medical Society, the Hotel Duluth, the Duluth Association, the Duluth papers, the photographers and radio stations.

Motion was regularly made, seconded and carried, to adjourn at three-thirty o'clock.

OBITUARY

Erle Edson Benedict
1877-1934

Dr. E. E. Benedict, practicing physician in Minneapolis for the past twenty-five years, died September 13, 1934.

Born at Osage, Iowa, Dr. Benedict studied medicine at the University of Minnesota, and later continued in the post graduate school at Johns Hopkins university. Dr. Benedict practiced medicine at Racine, Minn., five years before moving to Minneapolis.

Dr. Benedict was a member of the Hennepin County Medical Society, the Minnesota State Medical Association and the American Medical Association. He was an examiner for the Metropolitan and Reliance Life Insurance Companies, and the Royal Neighbors and Modern Woodmen.

Surviving Dr. Benedict are his wife; three daughters, Mrs. Ed. Ukkleberg, Wahpeton, N. D., Mrs. Gale Rutherford, Chicago, Ill., and Dorothy Benedict, Minneapolis; and his mother, Mrs. A. E. Benedict, also of Minneapolis.

Jared W. Daniels
1867-1934

Dr. Jared W. Daniels, all his life a resident of St. Peter, Minnesota, and one of its outstanding citizens, died at his home Tuesday, October 9, of coronary occlusion, at the age of sixty-seven.

Born at St. Peter, March 15, 1867, the son of Dr. Asa W. Daniels, who came to Minnesota in 1853, he obtained his early education in the grade and high schools of St. Peter.

After attending the department of Arts and Sciences at the University of Minnesota and teaching school for a year, Dr. Daniels graduated from Rush Medical College in 1889 and spent a year at the College of Physicians and Surgeons in New York City. After three years' association with his father in practice he took a year of postgraduate study at St. Thomas Hospital at the London Post-Graduate School of Medicine and then returned to St. Peter well equipped to practice.

Dr. Daniels enlisted April 23, 1917, as a first lieutenant in the Army and received his captaincy at Fort Riley. He was later assigned to Whipple Barracks, Arizona. Following the war he was active in the American Legion, having been the Post Commander of the William R. Witty post in 1932.

For forty-four years Dr. Daniels was a warden and vestryman of the Episcopal church. He was a member of the Nicollet-LeSueur County Medical Society, Minnesota State and American Medical Associations, the Military Surgeons and Southern Minnesota Medical Association.

In 1904 Dr. Daniels married Florence A. Amundson, who survives him. One daughter, Isabel, is teaching at Howard, South Dakota, and the other, Karen, at Mahtomedi, Minnesota. A sister, Mrs. J. V. Dodd, resides at Pomona, California.

E. W. Hammes
1854-1934

Dr. E. W. Hammes, who practiced medicine for forty-six years in the New Trier and Hampton communities in Dakota County, died in St. Joseph's hospital October 3, 1934, at the age of eighty years.

Dr. Hammes was born in Milwaukee, graduated from the Rush Medical college at Chicago in 1879 and a year later married Miss Anna Schmidt of Rolling Stone and established himself at New Trier for the practice of his profession. Later he moved to Hampton and continued in active practice until about eight years ago, when he moved to Saint Paul.

His widow and three children survive. They are Dr. E. M. Hammes, Miss Theresa Hammes and Mrs. Albert Muellerleile, all of Saint Paul.

Jacob L. Schoch
1862-1934

Dr. Jacob L. Schoch, well known physician of New Ulm, Minnesota, succumbed September 21, 1934, to pulmonary thrombosis and pleurisy following an operation.

Dr. Schoch was born at Selinsgrove, Pennsylvania, in 1862. He attended the schools in his native town and at Gettysburg, Pennsylvania, and was graduated in medicine at the University of Michigan at Ann Arbor, in 1885.

Dr. Schoch located at New Ulm, Minnesota, in 1888, and had since resided there as a practicing physician until his death.

In addition to conducting his medical practice, Dr. Schoch took an active interest in the establishment and development of various local industries and projects. He was appointed a member of the State Board of Medical Examiners by Governor Merriam, serving six years on that board. He was also a member of the pension examining board in former years. He was a member of the Redwood-Brown, Minnesota Valley and Minnesota State Medical Associations.

It is an interesting coincidence that the late Drs. O. C. Strickler and L. A. Fritsche, and Dr. J. C. Rothenburg of Springfield and the latter's associate, Dr. J. Shrader, who were all fellow students and graduated at the same time at the University of Ann Arbor, Michigan, eventually located in Brown County, Minnesota.

REPORTS AND ANNOUNCEMENTS OF SOCIETIES

Mayo Foundation Lectures

A special program of lectures and demonstrations in medicine will be held under the direction of The Mayo Foundation from December 3 to 7, inclusive. Mornings will be devoted to surgery and dry clinics. In the afternoons and evenings medical and surgical subjects, including cardiovascular diseases, diseases of the nervous system, artificial fever, roentgen and radium therapy, laryngology, oral and plastic surgery, gynecology, diseases of the endocrine glands and orthopedics, will be discussed.

While this program is arranged primarily for the Fellows of The Mayo Foundation, visiting physicians are invited to attend.

John W. Bell Tuberculosis Lecture

Leaders in tuberculosis work from Minnesota and the Northwest will attend the first annual John W. Bell Tuberculosis Lecture before members of the Hennepin County Medical Society at their evening meeting December 3. Dr. Gerald B. Webb, of Colorado Springs, former president of the National Tuberculosis Association and widely known for his work in tuberculosis, will be the speaker of the occasion.

The lectureship, established in the Hennepin County Medical Society last May, will bring to Minneapolis each year news of the most advanced methods of diagnosis and treatment in tuberculosis. It was founded by the Hennepin County Tuberculosis Association in honor of the late Dr. John W. Bell, of Minneapolis, with the approval of the Executive Committee of the Hennepin County Medical Society.

Dr. Webb, who was named by a committee of representatives from the Hennepin County Medical Society and the Hennepin County Tuberculosis Association, is research director for the Colorado Foundation for Research in Tuberculosis and he is president of the Colorado School for Tuberculosis.

Dr. N. O. Pearce is chairman of the committee on arrangements for the first annual lectureship. Members of his committee are Dr. George D. Head, Dr. J. F. Corbett, Dr. Thomas S. Roberts and Dr. H. L. Ulrich

On the lectureship program will be Dr. J. F. Corbett, a close friend of the late Dr. Bell, who will give a tribute to the man in whose honor the lectureship was established. Dr. Thomas S. Roberts will discuss the part taken by Dr. Bell and others in the founding of the Hennepin County Tuberculosis Association.

Clay-Becker County

The Clay-Becker County Medical Society held a dinner meeting at Lake Park, November 2.

The program included a talk by Dr. J. A. Myers, Minneapolis, on "Chests"; Dr. H. S. Diehl, University of Minnesota, on "New Work on Colds, Treatment, et cetera"; and Dr. R. V. Ellis, University of Minnesota, on "Hay Fever."

Physicians from Fargo and all adjacent counties were invited to attend the meeting.

Lyon-Lincoln County

The following officers have been elected for the Lyon-Lincoln County Medical Society: Dr. L. J. Happe, Marshall, president; Dr. H. J. Nilson, Tracy, vice president; Dr. H. M. Workman, Tracy, secretary-treasurer; Dr. A. L. Vadheim, Tyler, delegate; Dr. B. C. Ford, Marshall, alternate; Dr. P. E. Hermanson, Hendricks, censor for three years.

St. Louis County

Dr. W. R. Bagley, Duluth, was elected president of the St. Louis County Medical Society at the society's annual meeting on October 11.

Other officers are Dr. E. N. Peterson, Eveleth, vice president; Dr. P. S. Rudie, Duluth, second vice president; Dr. M. G. Gillespie, Duluth, secretary-treasurer; Dr. L. R. Gowan, Duluth, Dr. R. L. Nelson and Dr. C. E. Alexander, Duluth, censors; Dr. C. L. Haney, Duluth, Dr. F. J. Elias, Duluth, Dr. B. F. Davis, Duluth, and Dr. G. T. Ayres, Duluth, delegates.

Southwestern Minnesota

The Southwestern Minnesota Medical Society met at Southwestern Sanatorium at Worthington, Friday, October 19, at 7 p. m.

Speakers were Dr. E. A. Meyerding, St. Paul, Secretary of the Minnesota State Medical Association, on "What Will Tomorrow Bring?" Dr. F. J. Savage, St. Paul, President of the Minnesota State Medical Association on "The Work of the State Society"; Dr. Henry Meyerding, Rochester, on "Fractures"; Dr. C. B. Wright, Minneapolis, on "Coronary Thrombosis"; and Dr. J. A. Myers, Minneapolis, on "Chests."

WOMAN'S AUXILIARY

President—Mrs. Martin Nordland, Minneapolis
Editor—Mrs. C. F. Ewing, Wheaton

MEDICAL RELIEF*

George B. Larson
Saint Paul

As you know, I have been employed by the Medical Association as their Field Representative with the particular assignment at the present time to work on Relief and SERA Compensation.

With the fast changing phases of the practice of medicine, there is need for someone to keep members posted on the changes that are being made every day. Unless a member is posted on the changes and educated to the routine of the new system of practice, he will suffer financially.

The practice of medicine is in a transitory stage. We are being regimented more and more each day. As an evidence of this regimentation we have the Relief Compensation. Beyond a doubt during the next session of Congress some type of Health Insurance will be worked on and, if passed, will regiment the profession far more.

The physician has lost in a measure some of his individualism, and as time goes on will lose more and more of it. Unless the medical profession exerts a guiding hand in the form of the new set-up, the ideals of the practice of medicine will be shoved aside and the doctor and the patient will become merely cogs in the wheels of "Machine Medicine."

Let us go back to see what has caused this present, we might say, drastic change in the practice of medicine. This change has been in the offing for a number of years, but the failure of business to maintain purchasing power of the general public has accentuated this change.

At the time of the presidential election there were long bread lines and soup kitchens. The burden in caring for these people became too great for the voluntary charitable institutions. Then it became too great for the local government and consequently it was shifted to the Federal government.

The American people demanded a change regardless of its nature; the election results were the expression of the American people in demanding more adequate relief to be furnishd by the Federal Government.

As a result of this demand, we have had set up all the alphabetic bureaus with which you are more or less familiar. The bureau that affected us most directly is the FERA; this bureau provides medical care for those on relief.

Now, that you may appreciate the magnitude of this relief question, let me quote you a few figures:

National.—Spending $100,000,000 monthly—5,000,000 families on relief; 10,000,000 unemployed; 25,000,000 to

*Address given before the Woman's Auxiliary of the Minnesota State Medical Association, October 10, 1934, Saint Paul.

40,000,000 families expected to be on relief before the winter is over.

Minnesota.—75,000 families on relief, which means 300,000 individuals; expected load 500,000.

You can readily see from these figures that the relief clients are going to constitute more and more the physician's private practice. It is important, therefore, that the physician become more closely organized . . . if he insists on continuing to play the game as an individualist, he is going to be sunk.

I realize that this is a rather lengthy preamble to the explanation of why I am here, but I did want to impress upon you the magnitude of this situation so that you might realize the importance it is going to play in the lives of the physicians, and appreciate the need for a field representative to educate and organize the profession for the impending changes to take place in the practice of medicine.

My duties this first month have been centered largely on the organization of an advisory and contact committee to work with the relief department. This same type of organization work is being carried on all over the United States, particularly in those states where they have an active state organization.

This organization under relief is really the golden opportunity for which organization men have prayed for years. As a result of this organization, we will be able to influence and guide whatever changes may come up.

I would like to explain to you just what these committees are doing, not only in Minnesota, but nationally. In the first place, they are advisory; they act on controversial bills. They are to be the police organization within the medical profession to guide the relief worker in medical work.

SERA has just recently provided compensation insurance for men on work relief projects and for the Administration employes of SERA. This has a great medical aspect inasmuch as medical care is one of the important provisions of this compensation insurance. I mention this only to show how governmental action is continuously encroaching on the private practice of the physician.

I have covered briefly what my duties consist of and the work I am doing.

There are just three important points I wish to impress upon you:

1. The importance of medical relief
2. The necessity of solid organization
3. The importance of the Auxiliary in this work
   (a) Keep husbands sold on the organization
   (b) Sell the nonmember's wife on the need for organization
   (c) If you have a woman relief worker, entertain her.

Of General Interest

Dr. Stewart W. Shimonek has opened an office at 317 Lowry Medical Arts Building, Saint Paul, for the practice of orthopedics.

Dr. Bernard A. Flesche, a graduate of the University of Minnesota, 1933, who has been doing locum tenens work in several different localities in Minnesota, has located at Lake City, Minnesota.

Dr. W. D. Graham has moved from Cass Lake, Minnesota, to Neodesha, Kansas, where he is affiliated with CCC Company 784.

Dr. R. F. Hedin of Red Wing was recently elected the first president of the newly organized Junior Chamber of Commerce of Red Wing.

Mr. George B. Larson, field representative for medical relief of the Minnesota State Medical Association, talked to the Rice County Medical Society Friday evening, October 26, at the Faribault Clinic rooms. His subject was "Medical Relief."

Dr. A. T. Laird and staff of Nopeming Sanatorium were hosts, October 23, to an informal group of St. Louis County physicians interested in the industrial aspects of silicosis. The subject was fully outlined and ably visualized by x-ray films and tissue specimens.

Dr. Anderson Hilding of Duluth, who spent part of the last winter as an assistant in the eye clinic of the noted English missionary physician, Dr. Holland, in India, has recently given a series of enlightening illustrated addresses dealing with this work. He also attained the Khyber Pass and photographed a series of its menacing and observing citizenry at the very border of Baluchistan.

Physicians of the seven Minnesota counties in the Deerwood Sanatorium district have been invited to attend a short course on tuberculosis to be held at the sanatorium Friday, October 26, under the auspices of the Minnesota Public Health Association. Registration will be limited to a small group. The program will begin at 4 p. m., when physicians will have an opportunity to examine patients and discuss cases with the visiting clinicians. Dinner will be served at the sanatorium. Included on the evening's program will be lectures by Dr. S. A. Slater, superintendent of Southwestern Minnesota Sanatorium and former president of the Southwestern Minnesota Medical Society; Dr. J. A. Myers, Professor of Preventive Medicine, University of Minnesota; Dr. F. F. Callahan, superintendent of Pokegama Sanatorium; Dr. E. A. Meyerding, executive secretary of the Minnesota Public Health Association, and a demonstration by Dr. E. G. Hubin, superintendent of Deerwood Sanatorium.